

Predictors of coping adaptiveness, and its role as a mediator in relationships between general self-efficacy and mindfulness with psychological wellbeing.

Margaret McKay-Brownless

**Doctorate in Clinical Psychology
Edinburgh University
March, 2012**

Dedication

This thesis is dedicated to my late husband

Bob McKay-Brownless

Who loved life, and understood it well.

And to my parents, the late

Pearl McKay and Alex McKay

Cherished memories of their love and belief in me.

Declaration

I composed this thesis, the work is my own. No part of this thesis has been submitted for any other degree or qualification.

Name..... Date..... 8/5/12.....

Acknowledgements

Grateful thanks to:

Dr. David Gillanders, Academic Supervisor

Dr. Anna Wroblewska, Clinical Supervisor

Alison McMullan, Consultant Clinical Psychologist

Dr. Matthias Schwannauer, Edinburgh DClinPsychol. Programme Director

Their individual contributions of support, knowledge and time helped in the process of completing this work during tragic and challenging times.

CONTENTS

	Page
ABSTRACT	1
INTRODUCTION	3
1. STRESS AND COPING	8
1.1 A Brief History of the Concept of Stress	9
1.2. Early Physiological Understanding of Stress	10
1.3. Early Psychological Understanding of Stress and Coping	12
1.3.1. Coping and Defense Mechanisms	12
1.3.2. Behaviourism and the Learned Response	16
1.4. Coping	18
2. COPING AND WELLBEING	19
2.1. Coping Styles and Strategies	20
2.2. Coping - Disposition or Transaction?	22
2.2.1. Coping as a Disposition	22
2.2.2. Stress, Coping and Appraisal - The Transactional Process	24
2.2.3. The Limitations of each Approach to Coping	26
2.2.4. Interactions between Dispositions and Cognitive Appraisals	29
2.3. Coping and Wellbeing	31
2.3.1. Stress, Coping and Physical Wellbeing	33
2.4. Emerging Themes in Contemporary Stress and Coping Research	36
2.4.1. The Daily Process of Individual Coping Attempts	36
2.4.2. The Role of Positive Emotion in the Coping Process	37
2.4.3. Proactive Coping	40
2.4.4. Dyadic and Collective Coping	42
2.5. Approach and Avoidance Coping and Adaptation	44
3. FLEXIBLE COPING	47
3.1. Coping Flexibility and Wellbeing	47
3.2. Coping Flexibility	48
3.2.1. Mechanisms Underlying Coping Flexibility	48

3.2.2.	Discriminative Facility and Perception of Controllability	49
3.2.3.	Perceived Controllability may not be Enough	50
3.3.	Coping Adaptiveness	52
4.	GENERAL SELF-EFFICACY	57
4.1.	The Importance of Individual Belief in Self-efficacy	57
4.2.	Self-efficacy and Persistence	57
4.3.	Self-efficacy and Psychological Distress	58
4.4.	General Self-efficacy	59
4.5.	General Self-efficacy and Coping Adaptiveness	61
5.	MINDFULNESS	62
5.1.	Mindfulness and Control of Response	63
5.2.	Mindfulness Training and Psychological Difficulties	64
6.	PSYCHOLOGICAL WELLBEING	66
6.1	Hedonic and Eudaimonic Approaches to Psychological Wellbeing	67
6.1.1	The Hedonic Perspective	67
6.1.2.	The Eudaimonic Perspective	68
6.2	General Self-efficacy and Psychological Wellbeing	69
6.3.	Mindfulness and Psychological Wellbeing	71
6.4.	Coping Adaptiveness and Psychological Wellbeing	72
6.4.1.	Knowing when and when not to Act	73
7.	COPING ADAPTIVENESS AS A POSSIBLE MEDIATOR	74
7.1.	Social Cognitive Theory - Cognitive Affective Theory	75
7.2.	Transactional Theory	78
7.3.	Eudaimonic Theory	79
Study 1		81
8.	Rationale for and the Aims of Study 1	81
9.	Hypotheses	82
10.	Definition of Terms and Constructs used in this Study	83
METHOD		87
11.	Design	87
12.	Sample Size Calculation	87

13.	Ethical Considerations	88
14.	MEASURES USED IN THIS STUDY TO COLLECT DATA	90
14.1	Personal Functioning Inventory (PFI)	90
14.1.1.	Development of the PFI	91
14.1.2.	Item Selection for the PFI	91
14.1.3.	Reliability and Validity of the PFI	92
14.1.4.	Factor Analysis of the PFI	93
14.2.	Frankfurt Monitoring Blunting Scales (FMBS)	94
14.2.1.	Scoring the FMBS in the Present Study	95
14.2.3.	Development of the FMBS	96
14.2.4.	Reliability and Validity of the FMBS and EMBSS	97
14.3.	The General Self-efficacy Sub-scale (GSES)	100
14.3.1.	Reliability and Validity of the GSES	101
14.3.2.	Factor Structure of the GSES	102
14.3.4.	Superiority of the GSES for use in the Present Study	103
14.4.	Mindful Attention Awareness Scale (MAAS)	104
14.4.1.	Development of the MAAS	105
14.4.2.	Reliability and Validity of the MAAS	106
14.4.3.	Factor Analysis of the MAAS	107
14.4.4.	Comparison of Direct and Indirect Versions of the MAAS	107
14.4.5.	Alternative Mindfulness Scales	108
14.5.	The Symptom Checklist-90-R (SCL-90-R)	109
15.	RECRUITMENT	110
15.1.	Inclusion and Exclusion Criteria	111
15.2.	Original Recruitment Plan	112
15.3.	New Recruitment Strategy	112
15.4.	Recruiting the Recruiters	114
15.5.	Recruitment Difficulties	115
15.6.	Strategies to Address Recruitment Difficulties	116
15.7.	Summary	120
16.	Procedure	120

17.	Analytical Plan	121
RESULTS		123
18.	Participants	123
19.	STAGE 1	123
19.1.	Checking Assumptions	124
19.1.1.	Descriptive Statistics	125
20.	STAGE 2	128
20.1	Correlational Analysis	128
20.1.2.	Correlations with Coping Adaptiveness	128
20.1.3	Correlations with General Psychological Distress	129
20.1.4.	Other Correlations Between Constructs	130
20.1.5.	Limitations of Correlational Analysis	130
DISCUSSION		131
21.	SUMMARY OF RESULTS	131
21.1.	Discriminative Facility	131
21.1.1	No Significant Associations with Coping Adaptiveness or General Psychological Distress	131
21.1.2.	Possible Methodological Weaknesses in the FMBS for Measuring Discriminative Facility	132
21.2.	Mindfulness and Coping Adaptiveness	136
21.3.	Mindfulness and General Psychological Distress	137
21.4.	General Self-Efficacy and Coping Adaptiveness	138
21.5.	General Self-Efficacy and Psychological Distress	140
21.6.	Coping Adaptiveness and General Psychological Distress	140
22.	METHODOLOGICAL LIMITATIONS	141
22.1.	Possible Psychometric Weaknesses in the FMBS and the PFI	141
22.2.	Limited Control of Potentially Confounding Influences on Participant Coping Abilities	142
22.3.	Recruitment Weaknesses and Lessons Learned	143
23.	Summary	143

Study 2	145
24. Measures of Psychological Wellbeing	146
25. Rationale for and the Aim of Study 2	148
26. Hypothesis	149
METHOD	151
27. Design	151
28. Sample Size Calculation	151
29. Ethical Considerations	153
30. MEASURES USED IN THIS STUDY TO COLLECT DATA	154
30.1. Personal Functioning Inventory (PFI)	154
30.2. The General Self-efficacy Sub-scale (GSES)	155
30.3. Mindful Attention Awareness Scale (MAAS)	156
30.4. The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)	157
30.4.1. Development of the WEMWBS	158
30.4.2. Reliability and Validity of the WEMWBS	159
30.4.3. Internal Consistency and Face Validity of the WEMWBS	159
30.4.4. Reliability	160
30.4.5. Construct Validity	160
31. RECRUITMENT	161
31.1. Inclusion and Exclusion Criteria	162
32. Procedure	163
33. ANALYTICAL PLAN	164
33.1. Mediation or Moderation?	164
33.2. Simple Mediation Analysis	166
33.3. Choice of Mediation Analysis for this Study	167
33.3.1. Causal Steps Approach to Mediation	167
33.3.2. Measuring the Indirect Effect	169
33.3.3. The Bootstrapping Method	170
34. Stages of Analysis	172
RESULTS	173
35. Participants	173

36.	STAGE 1	173
36.1.	Checking Assumptions	174
36.1.1.	Parametric Statistics	174
36.1.2.	Descriptive Statistics	174
37.	STAGE 2	177
37.1.	Correlational Analysis	177
37.1.2.	Correlations between Variables	177
37.2.	Internal Consistency	178
38.	STAGE 3	178
38.1.	Mediation Analysis	178
38.1.1.	Checking Assumptions Required for Multiple Regression Analysis	178
38.1.2.	Mediation Analysis using Bootstrapping Macro	179
38.1.3.	Mediation Effects of Coping Adaptiveness	180
38.1.3.1.	General Self-efficacy	180
38.1.3.2.	Mindfulness	182
	DISCUSSION	185
39.	SUMMARY OF RESULTS	185
39.1.	Reliability of Measures used in this Study	185
39.2.	General Self-efficacy and Coping Adaptiveness	185
39.3.	General Self-efficacy and Psychological Wellbeing	186
39.4.	Mindfulness and Coping Adaptiveness	186
39.5.	Mindfulness and Psychological Wellbeing	186
39.6.	Coping Adaptiveness and Psychological Wellbeing	187
39.7.	Mediating Effects of Coping Adaptiveness	187
39.8.	Mediation or Moderation?	188
40..	Methodological Issues	189
	GENERAL DISCUSSION	191
41.	THEORETICAL IMPLICATIONS	191
41.1.	Coping Adaptiveness	191
41.2.	General Self-efficacy and Mindfulness	192

41.3.	Mindfulness, Self-control and Attention to Self	194
42.	CLINICAL IMPLICATIONS	196
42.1.	Coping Adaptiveness	196
42.1.1.	Coping Adaptiveness in the Therapeutic Process	196
42.1.2.	Coping Adaptiveness, Mindfulness, General Self-efficacy and Therapists	197
42.2.	General Self-efficacy versus Mindfulness	198
42.3.	Coping Adaptiveness and Psycho-educational Courses	199
43.	Summary	200
	REFERENCES	203
	LIST OF APPENDICES	231

ABSTRACT

The ways in which individuals cope with stress has been the subject of much psychological research. Traditionally, coping has been understood as either a disposition, implying stability of individual coping style across situations, or as a process involving individual appraisal of situations and resources, leading to use of a variety of coping strategies. There is considerable evidence of maladaptive psychological and physical health outcomes in relation to different coping styles. More recent research suggests that flexibility in choice of coping response may be more adaptive than any particular style or strategy. The concept of coping adaptiveness, as measured by the Personal Functioning Inventory (PFI), is a relatively recent addition to the stress and coping literature. It emphasises the importance of accurate judgement of the controllability of the stressor in the coping process, as well as sufficient determination and self-control to ensure the most adaptive coping response when faced with obstacles or pressures to respond otherwise. The concept of discriminative facility has been shown to be a useful predictor of individual appraisal of controllability, and in the absence of scales designed specifically to measure determination and self-control, it is proposed in the present study that discriminative facility, general self-efficacy (which may be similar or related to determination), and mindfulness (which may help an individual have greater control over their responses), may be related to coping adaptiveness. Further predictions are that coping adaptiveness is negatively related to psychological distress, and positively with psychological wellbeing, and that coping adaptiveness mediates the proposed predictive relationships between general self-efficacy and mindfulness with psychological wellbeing. In a cross sectional design,

37 participants from a primary care adult clinical population, experiencing a variety of stress and mood related difficulties (study 1), and 159 undergraduate students and nonclinical associates of the researcher (study 2) took part in this study, by completing standardised questionnaires. The results of correlational analysis broadly supported associations in the theoretically predicted directions, and mediational analysis in study 2 suggested a significant mediation effect of coping adaptiveness in the relationship between mindfulness and psychological wellbeing, and general self-efficacy and psychological wellbeing in the nonclinical sample. Results from both studies are discussed in relation to methodological, theoretical and clinical implications.

INTRODUCTION

Clinical psychologists, not only treat psychological disorders, but are interested in what causes and maintains these disorders (e.g. Kirk, 2004). Their work is informed by empirical research to these ends. The way in which people attempt to cope cognitively, emotionally and behaviourally with stressful life events, can be seen as intervening between the stressor, and how well they are able to manage its effects. Their coping attempts are often identified as factors that maintain or moderate the psychological distress they experience. Therefore, this aspect of an individual's behaviour forms a major part of the assessment and formulation undertaken by clinical psychologists of their patients. It gives vital clues as to what the patient may already do that is helpful to them, and what areas they may need to focus on in therapy, in order to develop more helpful or adaptive coping responses, particularly in chronic conditions.

A focus within psychological treatment on coping responses, can potentially lead to greater empowerment of the patient, in terms of learning that independent management of psychological distress is within their capability. This possibility is in sharp contrast, for example, to historical psychiatric treatment choices as identified by Shorter (1997), ranging from asylums to Prozac for psychological difficulties, including stress. Such approaches, while perhaps the most helpful in certain cases, imply, however, that the individual is powerless against biological or genetic influences that can only be treated with medication or by manipulation of the environment. While difficult and stressful experiences may at times feel overwhelming, achieving a sense of efficacy in one's own

abilities to manage their effects must surely be an important goal. Therefore, increased understanding of when particular approaches to coping may be considered the most helpful or adaptive, depending on the nature of the stressful situation, may further enable therapists to assist their patients to this end.

The first part of this study is particularly interested in the relationship between what has been termed coping adaptiveness and general psychological distress, and in the psychological resources that contribute to coping adaptiveness. Although the stress and coping literature is vast (e.g. Ben-Zur, 2009; Carver & Scheier, 1994; Cox & Ferguson, 1991; Endler, 1997; Folkman *et al.*, 1986; Forsyth & Compas, 1987; Lazarus & Folkman, 1984; Greenglass & Fiksenbaum, 2009; Lazarus, 1966; Pearler & Schooler, 1978; Schwartz *et al.*, 1999), no other paper has attempted to provide a synthesis of the different strands of research in this domain, in order to answer the question of what makes flexibility or adaptiveness in coping possible.

Much psychological research has indicated a tendency in people to adopt a particular coping style across situations, according to individual differences such as personality for example, and views coping as a disposition (e.g. Carver *et al.*, 1989; Carver & Scheier, 1994; Endler & Parker, 1989; Fleischman, 1984; Miller *et al.*, 1988). Other findings have indicated the role of cognitive appraisal and the interaction between this appraisal and the nature of the stressful event, in the process of coping strategy choice. Both theoretical strands, now largely agree that individual tendencies to cope in a particular way, and individual appraisal of the stressful situation, probably interact to play a part in

this process. Also, relationships found between different coping styles and psychological and physical health, indicate that no one particular style of coping can be assumed to guarantee a healthy outcome. Such evidence points to the importance of accurate matching of coping response to the nature of the situation, and indicates that flexibility in coping strategy choice may be the most adaptive form of coping. Further research under the headings of flexible coping and adaptiveness in coping, have begun to explore the possible underlying mechanisms that allow this type of flexibility. Accurate individual appraisal of the controllability of any particular stressor has been identified as one such possible mechanism. While this may be necessary to ensure appropriate matching of coping response, Kohn *et al.* (e.g. 2003), have suggested that determination and self-control, may also be required to ensure this response is carried out, in the presence of pressures or obstacles to behave otherwise. To the present researcher's knowledge, at the outset of this study, there were as yet no psychometric scales available to test these ideas. Therefore, in order to begin addressing questions raised by these authors, general self-efficacy and mindfulness were considered as other psychological mechanisms that may allow coping adaptiveness. Although distinct from determination and self-control, some aspects of general self-efficacy may be similar or related to determination, and mindful awareness may help an individual to have greater self-control.

The second part of this study looked further at the ideas tested in study 1 to see whether coping adaptiveness may act as a mediator in the proposed relationships between general self-efficacy and psychological wellbeing, and between mindfulness and psychological

wellbeing. (In order to have greater confidence in results from multivariate analysis, it became necessary to recruit from a nonclinical population. Also, psychological wellbeing, rather than psychological distress was chosen as the outcome variable due to its use of a nonclinical sample and its greater interest in the positive rather than negative aspects of psychological health.) A mediating effect would mean that relationships found between the other constructs and psychological wellbeing would, at least in part, be due to the flexibility in coping that they allow. Such an effect would further indicate the importance of this construct in relation to wellbeing.

The present study, therefore, begins by looking at early historical attempts to understand the phenomenon of stress, which led to research focused on how individuals *cope* with stress. The most dominant coping styles identified in the literature (i.e. emotion-focused, problem-focused and avoidance-focused coping styles) are described, followed by a description of the two most dominant psychological threads of research in this domain, the dispositional view and the transactional view of coping. The limitations of each approach and their likely interaction are then discussed in relation to adaptive outcomes. A summary of some of the more recent emerging themes in the stress and coping research, such as the role of positive affect, proactive coping, and accounts of daily within person coping, is included to highlight their potential usefulness in this research domain. The study goes on to describe the associations found in research between coping and psychological distress and physical wellbeing, and to reflect on the recurring themes of approach and avoidance, which suggest the importance of coping flexibly to ensure consistent adaptive response. Research in

coping flexibility and the relatively recent concept of adaptiveness in coping (termed coping adaptiveness by the present researcher in order to avoid confusion of terms used in the literature) is reviewed and argued to be important for our continually developing understanding of the coping process. The concept of discriminative facility is explained in relation to accurate appraisal of controllability in stressful situations, that may be necessary for coping adaptiveness, and general self-efficacy and mindfulness are presented as psychological constructs that may also be related to coping adaptiveness.

The possible distinction between psychological distress and psychological wellbeing, as highlighted in the literature, is explained, followed by an outline of the hedonic and eudaimonic approaches to psychological wellbeing and empirical evidence of relationships between its different aspects and constructs under consideration in this study. Theoretical justification for the possible mediating role of coping adaptiveness in the proposed relationships between general self-efficacy and mindfulness with psychological wellbeing is drawn and presented from social cognitive theory, cognitive affective theory, transactional analysis theory, and theory in relation to the eudaimonic perspective of wellbeing. Empirical evidence of relevant mediation findings drawn from research on coping flexibility is also described, and concludes the main introduction to this study. A brief introduction to study 1 then follows along with its rationale and hypotheses, and includes brief definitions of the main relevant terms and constructs used in this study.

In study 1 a clinical sample of 37 adult primary care participants were recruited to

complete standardised questionnaires that measure coping adaptiveness, general psychological distress, discriminative facility, general self-efficacy, and mindfulness. Results reveal positive associations between coping adaptiveness and mindfulness and general self-efficacy, and a negative relationship between coping adaptiveness and general psychological distress. Surprisingly, no associations were found between discriminative facility and any of the other variables.

In study 2 an adult nonclinical sample of 159 participants, consisting of 50 psychology and 60 business and management undergraduate students from local universities, and 49 associates of the researcher, took part in this study. Participants completed standardised questionnaires that measure coping adaptiveness, general self-efficacy, mindfulness and psychological wellbeing. Coping adaptiveness was found to be a significant mediator in the predictive relationships between general self-efficacy and psychological wellbeing and between mindfulness and psychological wellbeing.

1. STRESS AND COPING

Coping is an essential feature of stress and emotional reactions, and if we do not give major attention to how it works, we will fail to understand the constant struggle to adapt to troubling chronic stresses and those produced by changing life conditions. (Lazarus, 1999, p.102)

There is no getting away from the reality that people are faced with potentially stressful events throughout their lives, be they everyday hassles or more emotionally challenging events such as trauma, loss, injury or illness. As outlined above, the present study is particularly interested in the ability to flexibly use different ways of coping, depending

on the nature of the stressful situation. However, before turning to research already done in the areas termed coping flexibility and coping adaptiveness, some background to the larger topic of coping and stress will now be outlined, beginning with a brief history of the concept of stress.

1.1. A Brief History of the Concept of Stress

Stress is typically characterised as 'a feeling of discomfort, tension and negative affect' (Baum & Posluszny, 1999, p.142). The concept of stress was first used in the 14th century to describe hardship and adversity (Lumsden, 1981). Although this use of the concept marked the beginning of its acknowledgement as such, it could be argued that human beings have always had to find ways to cope with potentially harmful events. Paterson and Neufeld (1989) reflect on the evolutionary advantages, throughout the development of our ancestors, of being able to respond effectively to environmental stressors. Of course the earliest stressors were comprised of real and unmistakable threats to our survival, both individually and as a species, such as wild predators or the struggle to avoid starvation. The most ideal stress response then, and understood today as the "fight-flight response", would have been 'increased heart rate, respiration, and alertness, and the diversion of blood from the digestive system toward the skeletal musculature' (Paterson & Neufeld, 1989, p.7). This biological response would increase the chances of escape or attack, whenever this was necessary. Although adaptive to life in the wild, as Paterson and Neufeld (1989) explain, this response became less fitting for our survival as our technologies and cultures developed, and the nature of stressors

changed.

Instead of being urgent and immediate, modern stressors tend to be of a long-term or chronic nature, such as relationship, work or health problems (Paterson & Neufeld, 1989). And yet it has been observed by Segerstrom and Miller (2004, p.601) for example, that 'human physiological response continues to reflect the demands of earlier environments' that were more threatening to our survival. Threats therefore, that do not require a physical response (e.g. conflict within a relationship) may have potentially detrimental physical consequences, including changes in the immune system. Sustained activation of the fight-flight response can lead to impairment in the functioning of various organ systems, leaving the body more vulnerable to disease (Paterson & Neufeld, 1989). The risk of this outcome implies, therefore, that our continued evolutionary adaptation to our environment may require modification to the way we respond to stress.

1.2. Early Physiological Understanding of Stress

The earliest stress research, between the 17th and 19th centuries, was done in the context of physical and medical sciences. The idea of stress was subsumed within the concept of stress and strain, which was understood as the effect on the organism of external forces from the environment. Nineteenth century medicine for example, considered such stress and strain to be linked to ill health (Lazarus & Folkman, 1984). By the 20th century, Hans Selye (e.g. 1950, 1956) was using the term stress to refer not to environmental demands, but to the physiological responses to those demands. His

general adaptation syndrome identified three stages within the stress process. As

Bennett (2000) explains,

The initial stage is one of alarm in which the body is activated to cope with a stressor. The alarm stage is driven primarily by the sympathetic nervous system, and is followed by the second stage of resistance, mediated by longer term hormonal processes. The third stage is depletion of bodily resources, resulting in illness. (Bennett, 2000, p.23)

Although, according to Bennett (2000), this theory provided an influential model of stress, Selye did not consider the nature of the stressor to be important in determining the stress response. He also did not acknowledge psychological mechanisms that may be involved in the stress reaction, or the emotional aspects of stress.

From a biological perspective, and reflecting a shift away from theories that viewed stress as something occurring in the environment, Wolff (1953, as cited in Lazarus & Folkman, 1984), referred to stress as a dynamic state involving interaction with and adaptation to demands. He asserted that stress '...is not a stimulus, assault, load, symbol, burden, or any aspect of the environment, internal, external, social or otherwise' (Wolff, 1953, as cited in Hinkle, 1973, p.31). Such theories that emphasised the interaction involved between the individual and events helped lead later researchers to see psychological stress as something that *also* does not occur in the environment, but something that is mediated by factors particular to the individual.

1.3. Early Psychological Understanding of Stress and Coping

Initially within psychology, the term anxiety tended to be used rather than the term stress for describing emotional distress, with scales developed for its measurement (e.g. Taylor, 1953). They helped to reveal the role of anxiety in learning, memory and perception for example (Lazarus & Folkman, 1984). Specific usage of the term stress gained increased momentum following the second world war, spurred on by interest of the military in the effects of stress on soldiers' performance in combat conditions, and on their psychological state after combat (Lazarus & Folkman, 1984). Interest in the concept of stress as a dynamic process, rather than a state in and of itself, spread from physiology to psychology in the 1950s, and eventually led to the concept of *coping* with stress (e.g. Lazarus, 1966).

1.3.1. *Coping and Defense Mechanisms*

Some of the earliest work that led to the present understanding of the concept of coping grew from research into defense mechanisms. Psychoanalytic approaches for example, understood symptoms of psychopathology in terms of unsuccessful individual defense mechanisms that led to unhelpful coping attempts (e.g. Freud, by 1933). Such defenses were understood by Cramer (2000, p.637), for example, to 'keep painful thoughts and affects out of awareness', and to have evolved in response to unconscious conflicts resulting from events in the individual's early history. Psychoanalytic treatment techniques for psychological difficulties involved, for example, free association, dream

analysis and interpretation of transference, which attempted to unravel the nature of these unresolved conflicts, and the ways in which they were interfering with adaptive behaviour in the present. Other writers (e.g. Alker, 1968; Haan, 1963) began to refer to “adaptive” defense mechanisms as “coping” activities. Haan began to distinguish coping behaviour from defensive behaviour, as the latter is 'by definition...rigid, compelled, reality distorting, and undifferentiated, whereas, the former is flexible, purposive, reality orientated, and differentiated' (Haan, 1965, p.374). As Lazarus (1999, p.103) explains, coping was seen by ego psychologists as 'the most mature way of dealing with stress and trauma', while 'defenses were regarded as neurotic or psychotic efforts to adapt, because they departed significantly from reality'. In fact, Haan (1977, as cited in Edwards, 1988), considered contact with reality a necessary condition for successful coping. However, as later research was to suggest, denial of reality can at least in the short run be an effective coping strategy (e.g. Hamburg & Adams, 1967; Lazarus, 1983, 2000; Miller & Grant, 1979).

Holmes (e.g. 1978, 1990, as cited in Cramer, 2000) was influential in his contribution to a body of academic psychological research that questioned the existence of unconscious processes, including defense mechanisms such as repression and projection, for example. These were considered better explained by differences in attentional attribution processes, respectively. However, Cramer (2000) cites more recent evidence from various fields of psychology for the likely existence of such processes.

For example, leading cognitive psychologists (e.g. Greenwald, 1992; Jacoby, 1991) now

accept the view that 'mental processes go on outside of awareness...which is a requisite for defense mechanisms', Cramer (2000, p.638). In the field of developmental psychology, researchers interested in infant attachment (e.g. Cassidy & Kobak, 1988; Colin, 1996), understand the avoidant response as a mechanism used, as Cramer (2000, p.640) explains, 'to defend against the presence of a caretaker who, because of previous experiences, evokes unpleasant emotions'. Also, in the field of clinical psychology (e.g. Dozier & Kobak, 1992, as cited in Cramer, 2000), premature termination or avoidance of therapy, may be explained by defense mechanisms related to attachment style. For example, some patients may report an unrealistically positive view of their relationship with their parents and downplay negative childhood experiences, in order to preserve their attachment with them, leading to resistance of therapeutic insights that threaten these attachments. In terms of assessing a person's functioning and coping strategies, therefore, Cramer (2000) considers it essential to take into account the possible influence of defense mechanisms in patient self-reports and accounts of their experiences.

Such evidence suggests the continued usefulness of the concept of defense mechanisms, in understanding particular behaviour patterns and emotional responses. Indeed, Cramer (e.g. 2000) considers their study to be critically important to understanding the ways in which people deal with stress. As cited in Somerfield and McCrae (2000, p.622), she argues the case for them being an adaptive coping process, because they, like coping processes, function to 'diminish negative affect in the face of stress'. She provides, however, a useful distinction between the defense mechanism and coping strategy, when she defines the former as defending against stress, and the latter as

coping with stress. Although both may be considered adaptive (depending on the individual context, for example), she understands them as 'inherently different processes', with coping equating to a conscious, intentional attempt to 'modify one's thinking, affect, or behaviour...so as to manage a stressful situation', as opposed to the 'unintentional cognitive distortion that occurs on an unconscious level when a defense mechanism is used' (Cramer, 2001, p.763).

Lazarus (2000), writing from the transactional analysis perspective of stress and coping, agrees that a significant portion of the appraisal process (of stressful situations) occurs without awareness, and considers defense one such factor which may influence the stress appraisal process. Also, a relatively recent interpretation of Sigmund Freud's original theoretical position on defense, by Erdelyi (2001), is that it can be conscious or unconscious. For example, an individual can choose consciously to suppress difficult memories.

It seems possible therefore, that although defense mechanisms occur outwith individual awareness, and whose effectiveness, as Lazarus (2000) suggests, depends on this, they may none the less indirectly affect conscious coping strategy choice, perhaps through their effect on the emotion process. Indeed it could be argued as, for example, by Newman (2001), that defense mechanisms and coping processes regardless of whether they are conscious, unconscious, intentional or unintentional, both serve to help the individual cope with stress. The question of whether or not they are adaptive has been

considered to depend on, for example, age and developmental appropriateness, (Cramer, 2000), and the context in which they are used (e.g. Cramer, 2000; Lazarus, 2000).

Research into defense mechanisms, as Somerfield and McCrae (2000) point out, is still hampered by the difficulties of measuring processes that are outwith an individual's awareness. Possible solutions for this dilemma have been suggested, by for example, Cramer (2000; Lazarus, 1998; Shedler *et al.*, 1993). For instance, a multi-method approach that allows for contradictions in self-report and observational methodologies may be useful (Somerfield & McCrae, 2000).

Even though more recent research has looked at the ways in which individuals may unconsciously defend aspects of their self from noxious realities, the status of defense mechanisms, according to Cramer (2000, 2001) for example, as cognitive processes that occur out-with individual awareness or intention, crucially means that they lie out-with conscious control and agency of the individual to bring about effective or adaptive coping outcomes.

1.3.2. *Behaviourism and the Learned Response*

Psychological treatment of stress and anxiety related difficulties have been much influenced by the behaviourist theories. For example, graded exposure techniques are often used, in which the individual gradually learns to manage the symptoms of anxiety in a stepped and controlled way, leading to absence of anxiety in the originally feared

situation (e.g. Andrews *et al.*, 1994). The behaviourists viewed stress in terms of stimuli occurring in the environment, to which individuals reacted with a learned response or habitual reflex. For example, 'anxiety was viewed as a classically conditioned response that led to unserviceable (pathological) habits of anxiety reduction' (Dollard & Miller, 1950, as cited in Lazarus & Folkman, 1984). In terms of operant conditioning, given certain stressful conditions, an individual would be expected to respond in the same way on each occasion, so long as the consequences of that response remained the same. The particular response made by an individual was viewed as dependent on the type of reinforcement it had previously received. This response could only be modified, therefore, given changes in external reinforcement. For example, if an individual's habitual response to a feared or stressful situation is avoidance, and this avoidance is encouraged by others or rewarded in some other way, i.e. by reduction in physiological arousal, that individual may continue to use this form of coping, because it leads to a reduction in aversive stimuli. Similarly, from a developmental perspective, a child may learn to behave in a particular way through modelling or vicarious reinforcement (e.g. Bandura, 1977a), by observing and being influenced by the behaviour of significant others in stressful situations, and by the consequences of that behaviour. Whereas, if such avoidance is not encouraged or tolerated by others, or early observed behaviour is more effective in dealing with stressors, that individual may attempt alternative coping behaviours that could initially cause more symptoms of anxiety or stress, but may be more adaptive for them in the long term.

Just as early psychoanalytic theory regarded the individual as somehow at the mercy of

unconscious mechanisms, over which they have little, if any, awareness, and no control over their response to events, the early behaviourist formulations neglected the possibility of individual agency that might affect the outcome of stressful events. However, Bandura's social learning theory (e.g. 1977a, 1986) helped to bridge the gap between purely behaviourist accounts and cognitive accounts of learning and behaviour. His notion of reciprocal determinism, for example, led to further understanding of the interdependence between cognitive, behavioural, and environmental factors in determining individual behavioural outcomes and response, rather than behaviour being entirely caused by environmental factors.

1.4. Coping

By the 1960s, the emphasis in research shifted more to coping than stress itself. Researchers began to recognise that individuals showed much variability in their reactions to stressors, and there was no straightforward link between difficult life events and maladaptive outcome. Instead, as Holahan *et al.* (1996, p.24) point out, 'some people ...remain healthy and some even mature more rapidly after effectively managing stressful events'. The possible importance of the moderating effects of individual coping attempts began to be recognised. Moos and Schaefer (1986, p.4) provide some inspiring examples of people apparently able to overcome the most dreadful and stressful experiences imaginable. For example, a 'young girl who experienced unthinkable personal horror in a Nazi concentration camp, where she was faced with abject chaos and the constant threat of imminent death' was able to empathise and give

food to her 'previous captors and torturers' when they were imprisoned following her own liberation. Another example is that of a middle aged man who was able to re-evaluate his understanding of love, after his relationship with his wife improved, following an accident that led to him becoming paralysed in all four limbs. While some appear able to 'transcend the most profound life crises...others break down after experiencing seemingly minor stressors' (Moos & Schaefer, 1986, p.4). In other words, life events are not necessarily stressful in and of themselves, but as Sutherland and Cooper (1990, p.64) state, 'stress is in the eye of the beholder'.

It can be concluded from the earliest attempts to understand the nature of stress and coping, therefore that individual responses to potentially stressful events, are likely to be affected by various factors or resources particular to the individual. Even though individuals may share the same type of physical response when they experience stress, they may not find the same type of situations stressful. Even if some situations are likely to be experienced as stressful by all individuals, such as the examples drawn from Moos and Schaefer (1986) above, no assumptions can be made regarding the level or time-frame of distress experienced. Stress 'exists only phenomenologically and in response to individual appraisal of an event as threatening, challenging or dangerous' (McKay, 2001).

2. COPING AND WELLBEING

So far this thesis has looked at the background of the concept of stress and the ways in

which early physiological and psychological understanding of stress helped inform theory in relation to individual coping attempts. This section will look more closely at the concept of coping and will describe the most prominent coping styles or dimensions that research has identified so far, along with evidence of their relationships with psychological and physical wellbeing. The two major theoretical strands regarding the nature of coping will also be described, and some conclusions drawn regarding the likely integration of them both in actual coping attempts. Brief reference will also be made to some of the most recent themes emerging in the stress and coping literature, such as the need for daily process accounts of coping, the role of positive emotions, proactive coping, and dyadic and collective coping.

2.1. Coping Styles and Strategies

Early coping researchers (e.g. Sidle *et al.*, 1969, as cited in Parker & Endler, 1996, p.9) took a particular interest in the study of '*conscious* strategies used by individuals encountering stressful or upsetting situations'. Although there are many different coping strategies a person might use, researchers began to identify recurrent basic coping responses that could be labeled as particular styles or dimensions (e.g. Averill & Rosenn, 1972; Cohen & Lazarus, 1973; Pearlin & Schooler, 1978). Two dimensions in particular were identified and have continued to receive much attention in coping research. These were termed problem-focused and emotion-focused coping. Problem-focused coping 'involves strategies that attempt to solve, reconceptualise, or minimise the effects of a stressful situation', while emotion-focused coping 'includes

strategies that involve self-preoccupation, fantasy, or other conscious activities related to affect regulation' (Endler & Parker, 1996, p.9). Interestingly, gender differences in the use of one or other of these styles have found acknowledgement and recognition in popular psychology literature. For example, Gray (1993) alludes to a practical or problem solving approach to difficulties often taken by men, while women often use an emotion-focused approach, seen in their need to talk about problems and ventilate their feelings in this way. Both classic and contemporary literature on coping (e.g. Garnefski *et al.*, 2003; Stone & , Neale, 1984, as cited in Howerton & Gundy, 2009) have also tended to associate emotion-focused coping with women and problem-focused coping with men. However, a recent qualitative study by Daughtry and Paulk (2006) for example, highlights the importance of avoiding a simple dichotomy when studying sex differences in coping styles, as they found both men and women used many different coping strategies.

There has been much consensus regarding the distinction between these two coping dimensions, with most of the earliest psychometric coping measures developed to include scales that measure them (e.g. Billings & Moos, 1981; Carver *et al.*, 1989; Folkman & Lazarus, 1980; Pearlin & Schooler, 1978). Such measures were hypothesised to be useful in identifying individual coping style and predicting the outcome of stressful events, depending on how adaptive the coping style was in any particular situation. Endler and Parker (1990) were among the first to identify a third dimension of coping, namely avoidance oriented coping. This form of coping refers to attempts to cognitively and behaviourally avoid contact with stimuli related to the

stressor, for example, through self-distraction. A possible fourth dimension, termed detached coping, has been suggested by Roger *et al.* (1993). In the construction and factor analysis of the Coping Styles Questionnaire, they found that items loading on to this factor indicated a feeling of being independent of the event and the emotion associated with it.

2.2. Coping - Disposition or Transaction?

Although there appears to have been agreement in the coping literature regarding the nature of coping dimensions, theoretical understanding of the ways in which coping attempts are chosen, has tended to take two different conceptual strands. The earliest strand of research saw coping as a disposition or trait, while the other major (and more dominant) strand viewed it as a process involving a transaction between varying factors in the individual and specific situational circumstances. These different theoretical strands will be discussed further below.

2.2.1. Coping as a Disposition

The dispositional or trait theory of coping is interested in what it is about the individual that leads to a particular response to stressful events. (e.g. Carver *et al.*, 1989; Fleischman, 1984). This view, therefore, emphasises individual differences. Carver *et al.* (1989) suggest two ways in which individual differences might play a role in coping. The first concerns the possibility that people have stable coping styles or dispositions

that lead to particular coping strategies. Holahan and Moos (1985, 1986) for example, found that people with an easy going disposition were more inclined to use an active coping style than an avoidant coping style, and that having an easy going disposition was positively associated with psychological health concurrently and one year later. This trait like approach would expect people to use the same style of coping across context and time, regardless of type or circumstances of the stressor.

The second possible way in which individual differences may influence coping strategy is that preferred ways of coping may derive from traditional personality dimensions. It is generally understood ‘...that an individual’s behaviour naturally varies somewhat from occasion to occasion, but...there is a core of consistency which defines the individual’s ‘true nature’; the unchangeable spots of the leopard’ (Matthews & Deary, 1998, p.3). Indeed a well-established wealth of research on the different personality traits and dimensions (e.g. Allport, 1937; Cattell *et al.*, 1970; Costa & McCrae, 1992; Eysenck, 1970; Goldberg 1993; Matthews & Deary, 1999; Webb, 1915) points to the enduring and stable quality of these psychological constructs in individuals. As identified traits such as Neuroticism (N), Extraversion (E), Openness (O), Conscientiousness (C), and Agreeableness (A), have been found to predict individual behaviour in many aspects of life, it is not unreasonable to suppose that they might also predispose people to cope in certain ways (Carver *et al.*, 1989). For example, Endler and Parker (1990) found positive associations between N and emotion-focused coping in both men and women. Also, McCrae and Costa (1986) found more use of emotion-focused and avoidance coping in people high in N than problem-focused coping.

Those high in N have also been found to be more prone to adverse emotional reactions to everyday hassles and upsets (Bolger & Schilling, 1991), to anger, irritation, anxiety and lack of confidence (Matthews *et al.*, 1991), and to problems in relationships (e.g. Crozier, 1982; Eysenck, 1976; O'Leary & Smith, 1991).

Matthews and Deary (1998) also acknowledge the difficulties in establishing the causal direction between N and stress reactions. For example high levels of N may be the result of distressing events, rather than high levels of N leading to less adaptive ways of coping with stress. Longitudinal studies, however (e.g. Magnus *et al.*, 1993), have found that those high in N react to a wider variety of events in a negative way, and that their difficulties with social interactions can make them more susceptible to negative life events such as divorce or loss of job. In terms of choice of coping style, those high in N use less problem-focused coping, and are more likely to use emotion and avoidance coping styles (e.g. Deary *et al.*, 1996; McCrea & Costa, 1986; Endler & Parker, 1990). Those high in E, on the other hand, tend to use more problem-focused coping (McCrea & Costa, 1986).

2.2.2. Stress, Coping and Appraisal - The Transactional Process

Unlike the dispositional approach to coping with stress, the transactional theory of coping understands psychological stress as 'a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her

resources and endangering his or her well-being' (Lazarus & Folkman, 1984, p.19). They define resources as 'what an individual draws on in order to cope'. Resources might include for example, 'intelligence, education, money, social skills, a supportive family and friends, physical attractiveness, health and energy, and favourable ways of thinking such as optimism' (Lazarus, 1999, p.104). This approach, therefore, views coping less as an enduring style and more as a process that involves varying responses that could change over time and depend on the specifics of the stressor. The concept of appraisal was earlier used by Grinker and Spiegel (1945, p.122) in relation to flight crews under constant threat of air war, when 'appraisal of the situation requires mental activity involving judgement, discrimination and choice of activity, based largely on past experience'. Lazarus (1964, as cited in Lazarus, 1999, p.74), went on to use the term appraisal to refer to 'an evaluation of the personal significance of what is happening'.

Lazarus (1966) was the first to suggest that stress consists of three processes. Primary appraisal is the process of perceiving a threat to oneself. Secondary appraisal is the process of bringing to mind a potential response to the threat. Coping is the process of executing the response to the threat. Rather than the overall process being a linear one, Lazarus argued that the process of secondary appraisal can lead to re-appraisal of the threat as being less threatening. Also, as Carver *et al.* (1989, p.267) explain, 'if a coping response is less effective than expected, you may reappraise the level of threat or reappraise what coping response is appropriate'. Coping is thus conceptualised as 'constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person'

(Lazarus & Folkman, 1984, p.141).

With the later theoretical inclusion of the role of emotion in the stress and coping process, Lazarus (1999, p.124) considered the most important factor to be the 'relational meaning an individual constructs from an adaptational transaction'. As he explains, '...this meaning depends on personality variables, such as goal commitments, beliefs about self and world and personal resources'. Referring to work done by Laux and Weber (1991) he gives as an example, the ways in which anger and anxiety are expressed between married couples, may depend on the individually appraised meaning of threat. If the main threat is dissolution of the marriage, the expression of anger may be inhibited in favour of efforts to save the relationship. However, if the threat is to self-esteem, expression of anger may be 'the preferred coping strategy...to repair the psychic damage' (Laux & Weber, 1991, as cited in Lazarus, 1999, p.125).

The transactional process approach contrasts with the trait approach in that it focuses on what an individual *actually* thinks or does in a specific stressful encounter, rather than what an individual *usually* does. Therefore it emphasises change and potentially varying contextual factors, rather than a stable dispositional style (Folkman *et al.*, 1986).

2.2.3. *The Limitations of each Approach to Coping*

The dispositional approach to coping may appear best placed to account for the associations found between personality traits and choice of coping style, as described

above. However, Matthews and Deary (1998) suggest the transactional approach may provide the better theoretical explanation. As they surmise,

Personality seems to influence the subjective world the individual inhabits, so that high N subjects' tendency to perceive the world as a particularly harmful and threatening place, contributes to their vulnerability to stress. (Matthews & Deary, 1998, p.187)

They go on to explain that the way in which it may do this, is by its effect on the individual's appraisal of stressful situations, which '...may mediate the association between N and stress', leading to sometimes maladaptive coping such as '...avoidance and self-blame' (Matthews & Deary, 1998, p.187).

Indeed those who would argue the case for the transactional theory of stress (e.g. Cohen & Lazarus, 1973; Folkman & Lazarus, 1980, 1984; Lazarus, 1999) believe that dispositions are not likely to be useful predictors of coping, in and of themselves. Lazarus (1999) discusses important limitations to the dispositional approach to coping. He claims that it 'oversimplifies the extremely rich and varied kinds of coping thoughts, actions, and strategies people employ under stress' and that it has 'ignored goal-oriented intentions and integrative strategies that could be defined as motivated, which people use in dealing with harm, threat and challenge' (Lazarus, 1999, p.108). Lazarus (1999) further criticises the dispositional approach on the grounds that personality and coping based approaches are relatively insensitive when it comes to predicting specific behaviours in varying contexts and across time. Also, Schwartz *et al.* (1999, p.360) found that self-report assessments of trait coping are 'poor predictors of coping in specific situations'. In other words, someone's apparently habitual way of coping, as

measured for example by coping styles questionnaires, cannot accurately predict how someone will *actually* cope in response to changing situational demands. Discrepancies between actual coping behaviours and individual coping dispositions have also been found by other researchers (e.g. Kohlman, 1993; Krohne *et al.*, 1996).

Similarly, those writing from the transactional process perspective acknowledge the dangers of relying entirely on their own account to understand the *actual* coping responses that people make, and concede the part played by personality variables in the process of 'coordinated strategies a person employs in dealing with life ...rather than merely reacting passively to the momentary pressures of immediate conditions' (Lazarus, 1999, p.117). This view is backed up by the findings of Bolger (1990) and Cox and Ferguson (1991), for example, in that most people attempt to cope with similar events in similar ways. Folkman and Lazarus (1985), as with Matthews and Deary (1998), also argue that individual differences are obvious in relation to both the appraisal of a stressful situation and the coping response. As they explain, such differences exist, for example, in domains such as previous experience, beliefs about ability to cope, differences in the ability (or need) to take control in any particular situation, and intelligence.

Writing from a more dispositional perspective, Carver and Scheier (1994) agree that coping behaviour can change, but believe there may still be 'merit in the argument that people develop habitual ways of dealing with stress and that these habits or styles can influence reactions in new situations' (Carver & Scheier, 1994, p.185). Further

evidence that dispositions may play a role in the process of coping strategy choice comes from Carver *et al.* (1989). For example, in the development of the COPE questionnaire, they examined the possible influence of situational factors as well as stable dispositional coping tendencies. Their findings suggest at least modest associations between 'dispositional coping styles and comparable coping acts in a specific situation' (Carver *et al.*, 1989, p.280). They also found a higher level of active coping in controllable than in uncontrollable situations. The individually appraised importance of the situation as a function of coping was also recognised in their findings. Thus, individual dispositions are implicated in the process of coping. However, more importantly for the present study, such findings also lend weight to the notion that people tend to distinguish between types of situations in their choice of coping style.

2.2.4. *Interactions between Dispositions and Cognitive Appraisals*

Although both approaches to coping are quite different theoretically, they do not appear to be mutually exclusive, and it is likely that 'they interact to explain individual differences in coping and stress outcomes' (Porter & Stone, 1996, p.133). Therefore, accurate appraisal by an individual of any given stressful situation, may not necessarily always lead to the most adaptive response. Coping attempts will always be constrained and dictated by other factors specific to the individual. Likewise, although a person may largely appear to adhere to a particular style of coping, according to factors such as beliefs and personality, it would be incorrect to assume that appraisals of situational context, do not affect their choice of coping strategy.

The dispositional approach to coping helps to account for the development of particular ways of coping in individuals. However, theoretical recognition of the likely interaction between individual dispositions and abilities and the process of appraisal of stressful situations may be particularly useful in clinical settings. It may help to explain why particular ways of coping can become ineffective and sometimes harmful to an individual's wellbeing. Blindly adhering to habitual ways of coping, despite their ineffectiveness in a particular situation, for instance, can lead to maladaptive outcomes. For example, someone whose habitual response to stress is to keep physically active, in order to avoid the emotions associated with difficult events or circumstances, may not only find it difficult to maintain this coping strategy as they get older, but fail to recognise the potentially more beneficial consequences of responding differently. This may lead to feelings of anxiety and inability to cope, unless they recognise the need to learn alternative coping strategies, in order to deal with the particular nature of any given current stressor. Therapy can be used to help individuals to increase their awareness in relation to the ongoing effectiveness of their preferred or habitual ways of coping that may lead to more consistently adaptive outcomes. Also, although a habitual way of coping may be effective in dealing with some aspect of a stressor, a different approach may be needed for another aspect of it, requiring the individual to be open to the changing contingencies of events. Therefore, although individual coping attempts over time and across contexts, may largely be experienced by the individual as effective, sometimes subtle changes in context may require a shift to alternative methods of coping, in order to maintain psychological health. A more useful understanding of coping

therefore, may be that suggested by Cox and Ferguson (1991) when they define it as,

'...cognitions and behaviours combining into strategies which perform a mixture of functions; problem solving, reappraisal and avoidance. Any particular option or strategy may perform any one or number of these functions in the space of dealing with one stressful transaction' (Cox & Ferguson, 1991, p.23).

A call for research in the stress and coping domain, to change the ways in which it assesses and measures individual coping attempts (e.g. Lazarus, 2000) may help to further elucidate the ways in which the dispositional and transactional approaches are likely to interact in the stress process. The issue of measurement will be further highlighted in a later section concerning emerging contemporary themes in the stress and coping literature.

So far, this study has looked at the different theoretical strands that have attempted to conceptualise the nature of the stress and coping process and the differences between individuals found within it, and has begun to reflect on the importance of flexibility in coping choice, in relation to healthy outcomes. The following section will further consider the associations between coping and wellbeing, with reference to research on physical as well as psychological health.

2.3. Coping and Wellbeing

'All coping serves one overall function, that of dealing with the emotional correlates of a stressful transaction and creating a sense of control' (Cox & Ferguson, 1991, p.23).

However, as we have seen, specific ways of coping can both help and hinder adaptation to stressful events. Much research has been done to test the relationships between the different coping styles and specific outcomes in psychological and physical wellbeing. For example, emotion-focused and avoidant-focused coping styles have been implicated in the development of depression (e.g. Billings & Moos, 1981; Holahan *et al.*, 2005; Moeller *et al.*, 1992; Mullins *et al.*, 1991). These relationships have also been found to be bi-directional in nature, with people who are already depressed tending to use emotional and avoidance-focused coping (e.g. McNaughton *et al.*, 1992). Billings and Moos (1985) also found that greater use of problem-focused coping and less reliance on emotional discharge were related to a better long-term outcome at a one year follow-up. Also, depressed patients who relied less on emotional discharge at a 1 year treatment follow-up reported less depression and fewer physical symptoms at 4 years post-treatment (Swindle *et al.*, 1989).

There has been much consensus in this field of research on the particular efficacy of the problem-focused coping style in terms of adaptive functioning (e.g. Endler & Parker, 1990). However, conflicting evidence also suggests that emotion and avoidance-focused coping can be adaptive, depending on the particular circumstances of the stressor. For example, Suls and Fletcher (1985) found avoidant-focused coping to be effective in dealing with short-term stressors such as noise or procedural pain (e.g. a dental examination or injection). Also, Carver *et al.* (1992, as cited in Zeidner & Saklofske, 1996) recognised its effectiveness as a 'psychological breather' from the constant pressure of dealing with a stressful situation. An extreme example of

avoidance coping is that found in the development of dissociative phenomena, following the experience of abuse, torture or other forms of trauma (e.g. Herman, 2001).

Similarly, Stanton *et al.* (2000) suggest that the emotional approach aspect of emotion-focused coping, (i.e. processing and expressing emotions) can be adaptive in the short term, but that it can also become ruminative and, therefore, less adaptive in the long term. Further evidence suggests that problem-focused coping is more adaptive in situations that are controllable, and emotion and avoidance coping may be more adaptive in situations that are not (e.g. Carr, 2004, Carver *et al.*, 1989; Endler, 1997; Folkman & Lazarus, 1980). This suggests that flexibility in choice of coping style may be a highly adaptive strategy.

2.3.1. Stress, Coping and Physical Wellbeing

Studies of health and behaviour strongly suggest that 'psychological processes and emotional states influence the aetiology and progression of disease and contribute to overall vulnerability to illness' (Baum & Posluszny, 1999, p.139). These authors suggest three ways in which this influence can occur; 1) 'direct biological changes that parallel, precede, are induced by, or occur as part of an emotional reaction or behaviour pattern, 2) by behaviours that convey risk or protect against them, and 3) through behaviours associated with illness or the possibility that one is ill. Stress is considered a particularly important mediator of the behaviour-health relationship 'because its broad effects can influence a range of bodily systems and behaviours' (Baum & Posluszny, 1999, p.140). The biological reactions understood to accompany stress include changes

in the endocrine and immunological regulatory systems. These systems include circulatory changes, increased heart rate and respiration, 'that otherwise prepare the organism for action or attention' (Baum & Posluszny, 1999, p.143). Acute stress is understood to be accompanied by increased blood pressure, heart rate and arousal of the sympathetic nervous system. Such physiological arousal, especially if it is prolonged or very intense, is implicated as a contributory factor to particular diseases such as cancer, diabetes, coronary heart disease, and HIV. Delahanty *et al.* (1996, as cited in Baum & Posluszny, 1999) have also found that some cells in the immune system 'appear to respond differently depending on the chronicity of the stressor'.

Various responses to stressors may influence the extent to which physiological reactions are allowed to continue. The associations between such biological reactions and the onset of certain diseases is often understood to be moderated by personality and coping factors, which in turn may influence health related behaviours directly. For example, excessive use of alcohol as a means of distraction from the emotional impact of a stressful event may lead to greater health risks, while regular exercise may serve not only to capitalise on the increased feelings of wellbeing produced by the release of endorphins, but may also prevent high levels of fat that may contribute to the development of some cancers (Bennett, 2000).

Much early research in this field was centred around the positive relationship found between cardiovascular disorders and what was described as type-A behaviour. The type-A behaviour pattern was defined by Friedman and Rosenman (1974, as cited in

Lazarus & Folkman, 1984, p.122), as 'a chronic, incessant struggle to achieve more and more in less and less time'. Type-A individuals were also found to be particularly challenged by situations in which their control is threatened which 'led them to struggle aggressively to exert and to maintain control over their environment' (Chesney & Rosenman, 1983, p.24). The type-B behaviour pattern was understood generally as the absence of such behaviour. Using a typology to describe behaviour patterns has largely been abandoned in psychological research, in favour of personality dimensions. As such, aspects of the type-A behaviour pattern have been found to correlate positively and highly with the Extraversion and Neuroticism dimensions of personality (Eysenck, 1983). A lack of evidence in later studies ended an earlier consensus regarding the positive associations between type-A and Coronary Heart Disease (CHD). However, significant associations have been found between the hostility component of type-A and CHD (e.g. Barefoot *et al.*, 1983, as cited in Bennett, 2000). Some studies (e.g. Kune *et al.*, 1991) have found an association between type-C behaviour, defined as an 'aggregate of several coping styles, in particular being stoic, cooperative, appeasing, unassertive and inexpressive of negative emotions, particularly anger' (Bennett, 2000, p.12), and the development of cancer. Also, Shaffer *et al.* (1987, as cited in Bennett, 2000, p.13) found that 'participants characterized as 'loners' and thought to inhibit emotional expression, were 16 times more likely to develop cancer' than those 'characterized by 'acting out' and high levels of emotional expression'.

Clearly, the ways in which individuals respond to stress can have long lasting and potentially fatal consequences for their physical wellbeing. Therefore, research into the

nature of coping attempts may potentially provide vital insight to the most adaptive for our longevity, as well as our psychological wellbeing.

2.4. Emerging Themes in Contemporary Stress and Coping Research

2.4.1. *The Daily Process of Individual Coping Attempts*

To date, most research on coping has used methodology designed to study differences between individuals, rather than within individuals, and has come under some criticism for not leading to enough answers about the process by which coping can lead to adaptive outcomes. Coyne and Racioppo (2000) for example, have been disappointed in the paucity of research that has been able to bridge the gap between research and clinical interventions, by explaining more about this process. They refer to correlational studies using checklists as having 'outlived their utility' as they fail to, for example, tell us more about individual goals, intentions, and coping across situations (Coyne & Racioppo, 2000, p.656). Although Lazarus (2000) does not agree that such methods are entirely without their uses, he is among those who have called for more studies to examine the daily or within day process of individual coping attempts (e.g. Lazarus & Folkman, 1984; Lazarus, 1993, 2001). Tennen *et al.* (2000, p.626) are among those who have begun to answer this call, and suggest that 'daily process designs offer unique insights into conceptually and clinically challenging questions'. In their investigations of whether alcohol consumption is associated with avoidant or emotion-focused coping in moderate to heavy drinking men and women over 60 weeks, they found that within person analysis led to different results than between subject

analysis of the same data. For example, the average level of problem focused coping was unrelated to average daily drinking, while within person reports of coping and drinking indicated that participants drank less on stressful days when they used problem focused coping than on days in which they used less active forms of coping.

Despite the potentially more demanding aspects of this type of research, both for researchers and participants, Tennen *et al.* (2000) suggest some of the possible advantages include the temporal closeness of the actual occurrence of a stressor and the person's account of their coping attempts, the recollection of which may be different if asked to describe them at a later date. Also, closer to real-time assessment of coping can more accurately track changes in the coping process in response to changing aspects of a stressor, for example, or changes to the individual's perceived threat from the stressor, and changes in coping efforts.

2.4.2. *The Role of Positive Emotion in the Coping Process*

In terms of emotions experienced in the process of coping with stress, the role of negative emotion has traditionally enjoyed more attention by researchers. As Folkman and Moskowitz (2004, p.274) point out, '...coping responses are...initiated in an emotional environment, and often one of the first coping tasks is to down-regulate negative emotions...that may be interfering with instrumental forms of coping.' This, perhaps more obvious, role of negative emotions in the coping process, may help to

explain the previous bias in research. However, amidst recent growing general research interest in the role of positive traits and concepts, some coping researchers have turned their attention to the particular role of positive emotion in the coping process. Lazarus (1999, p.91), for example, refers to the 'fourth type of appraisal, namely *benefit* (his italics), which allows us to encompass positively toned emotions as well as the negative toned ones that flow from stress'. Folkman (e.g. 1997) also refers to a revision of the stress and coping process theory that includes the role of positive emotion.

This line of research draws from the observation that both negative and positive emotions can occur during intensely stressful periods (e.g. Folkman, 1997; Larsen *et al.*, 2001). As Folkman (2009, p.75) explains 'the coping processes that generate and sustain positive emotions tend to be different from those processes that regulate negative emotions', and those that tend to generate positive affect have been noted to be primarily appraisal-based (e.g. Tennen & Affleck, 2002), and have been termed meaning focused coping by, for example, Folkman (1997; Folkman & Moskowitz, 2000, 2004; Park & Folkman, 1997). This refers to the ways in which people access positive meaning during the coping process, leading to positive affect that may help offset some of the negative psychological and physiological effects of stress. Examples outlined in Folkman and Moskowitz (2000) include infusing ordinary events with positive meaning. For example, in a study by Folkman (1997, as cited in Folkman & Moskowitz, 2000), 99.5% of 1794 caregivers of partners with AIDS were able to describe something that had happened on a particular day that had made them feel good, or was meaningful, or

helped them get through the day, in amidst their distress. Such things included seeing a beautiful flower, or receiving a compliment for something minor.

Using cognitive strategies to re-frame a situation in order to see it in a more positive light, termed positive reappraisal, has also been shown to increase positive affect (e.g. Folkman *et al.*, 1994; Moskowitz *et al.*, 1996). For example, carers of terminally ill patients, revealed in a qualitative study by Folkman *et al.* (1994), how reappraisal of their situation, possibly as Folkman and Moskowitz (2000) suggest, in relation to deeply held values, helped them to see how their caregiving activities allowed them to demonstrate their love for their partner and to preserve their dignity.

Problem-focused coping has also been shown to help generate positive emotion, by the identification of situation specific goals and tasks, even within situations that feel uncontrollable, by helping to focus attention on such tasks, and may help enable caregiving responsibilities, for example (Folkman & Moskowitz, 2000). As positive affect has also been shown to promote creativity and flexibility in thinking and problem solving (e.g. Isen *et al.*, 1987), it may also have a useful role in adapting to changing demands in stressful situations.

The appraised situational meaning or personal significance of a stressful situation or event, has long been associated with subsequent coping activity (e.g. Lazarus & Folkman, 1984), and also with subsequent stress related growth in which individuals

perceive positive changes or benefits as a result of the stressful or traumatic experience (e.g. Park *et al.*, 1996, Tedeschi *et al.*, 1998, as cited in Folkman & Moskowitz, 2000). However, in terms of coping processes that lead to positive affect, Folkman and Moskowitz (2000 p.651), refer to 'the creation of situational meaning in the proximal, ongoing stressful context'.

Folkman (2009) regards this area ripe for future research to help us understand the ways in which being able to access positive emotions may affect individual ability to remain motivated, think clearly about what needs to be done, and protect physical and mental health during a stressful period, as well as clarify whether it may be a personality disposition or a situationally influenced form of coping (Folkman, 2009). Such a focus on positive affect in the coping process may also be usefully included in studies of daily process accounts of coping, as referred to above, and shed further light on how individual appraisal of stressful situations may help account for the variance in coping activity observed across individuals in this line of research.

2.4.3. *Proactive Coping*

Although most coping is traditionally regarded as a response to stress following a perceived threat to wellbeing, some recent research has extended the concept of coping to include proactive attempts to prevent the impact of possible anticipated future threats (e.g. Aspinwall & Taylor, 1997). Although this inclusion has been questioned on theoretical lines by, for example, Folkman (2009) due to the absence of an actual stress

appraisal, the latter author has also conceded that such research helps us understand the ways in which people try to manage stress.

Proactive coping has been defined as 'processes through which people anticipate or detect potential stressors and act in advance to prevent them or to mute their impact' (Aspinwall & Taylor, as cited in Folkman, 2009, p.74). Aspinwall and Taylor (1997) provide some examples: a woman who takes steps to find work in a related field when anticipating possible job loss in her current field, or the recently widowed man who makes plans to be with friends over Christmas when anticipating feeling lonely over that period of time.

Greenglass and Fiksenbaum (2009) appear to suggest, according to Folkman (2009) that proactive coping may be a coping style that is a feature of personality. They refer to the 'proactive individual' as someone who appears to take charge, and who 'accumulates resources, takes steps to prevent resource depletion, and is capable of mobilizing resources as needed' (Greenglass & Fiksenbaum, 2009, p.30). This approach to coping particularly recognises the ways in which social support such as practical assistance and emotional support 'can contribute positively to individual coping strategies (Greenglass, 2002, as cited in Greenglass & Fiksenbaum, 2009). The latter authors also posit that the proactive individual 'possesses highly developed social skills to mobilize such resources' (Greenglass & Fiksenbaum, 2009, p. 30). However, future research has yet to show whether proactive coping influences actual coping attempts in the face of, especially, the most challenging stressful situations.

2.4.4. *Dyadic and Collective Coping*

Most research on the stress and coping process has tended to focus on individual attempts to cope with stress. However, recent research, with a focus on the social and interpersonal aspects of the stress process, has examined aspects of dyadic coping (e.g. Berg & Upchurch, 2007; Knoll *et al.*, 2009; O'Brien *et al.*, 2009, as cited in Folkman, 2009) and collective coping (e.g. Luszczynska *et al.*, 2009, as cited in Folkman, 2009). Studies in this realm highlight the need to consider the ways in which one person's appraisal and expression of emotion, for example, may influence another person's.

In relation to dyadic coping, Knoll *et al.* (2009) looked at the ways in which the expressed appraisal and emotion of one partner within a relationship, can affect the other's appraisal processes, and the ways in which the 'transmission of depressive symptoms from one to the other can be mediated by cognitive appraisal'. They speculated, for example, in their study of couples going through IVF treatment that male partners were able to attribute their female partner's symptoms of depression to the hormone treatments she was undergoing, which suggests a stress reducing interpretation (Folkman, 2009).

O'Brien *et al.* (2009) suggested the importance of empathic responding in the context of daily step-family life. Empathic responding is a specific form of relationship focused coping that may be helpful in stressful family situations. As Folkman (2009) explains,

relationship focused coping (e.g. Coyne & Smith, 1991) refers to 'cognitive and behavioural efforts to manage and sustain social relationships during stressful periods'. Empathic responding specifically refers to providing caring gestures to another 'to defuse interpersonal stress and maintain the relationship' and 'may help partners manage conflict more effectively' (Folkman, 2009, p.73).

Luszczynska *et al.* (2009, as cited in Folkman, 2009) suggest that the experience of stress, for example, in natural disasters, epidemics or terrorism, is likely to mobilize particular types of support that may enhance individual self-efficacy beliefs about ability to deal with recovery from trauma. Some examples include participating in 'rituals and ceremonies that reinforce social cohesion' that may not be so available for purposes of support for the individual dealing with the effects of a traumatic experience (Folkman, 2009, p.74).

Research in the relatively new domains of proactive, dyadic, and collective coping, as highlighted above, illustrate the ways in which social and interpersonal aspects of coping, may further affect individual appraisal of a stressful situation and choice of coping strategy. The present study will now go on to reflect on the themes of approach and avoidance that often feature in stress and coping literature, before turning to specific research in the area of coping flexibility.

2.5. Approach and Avoidance Coping and Adaptation

From the wealth of research on stress, coping and their psychological and physical correlates, there is consensus that individuals, through their cognitive, emotional and behavioural reactions, considerably influence the effects of stressors on themselves. The themes of approach and avoidance appear prevalent throughout such research.

Individuals may use aspects of any of the identified coping styles to either approach or avoid the challenge of doing something adaptive to their health and psychological wellbeing, posed by the nature of the stressor or its effect on them. For example, they might use emotion-focused coping to vent their feelings of distress - thus *avoiding* finding a practical solution to the problem (at least initially), or they may also *approach* the problem using emotion-focused coping in terms of accepting the reality of the stressor and allowing the emotional response that it has provoked, rather than distracting or protecting themselves from the fact that a loss or a threat to their wellbeing has occurred. Similarly they may use aspects of problem-focused coping to *approach* or do something practical to alleviate or reduce adverse effects of a stressor. However, in doing so, they may perhaps *avoid* emotions that although distressing to experience in the short term, may in the long term allow for more adaptive processing of the stressful events.

The themes of approach and avoidance appear to be implicit in the characterisation of the major coping dimensions identified throughout the history of research into coping,

and coping formulations that have led to the development of coping measures have often explicitly referred to this theme using those terms or some variation of them. For example, Avoidance-Vigilance (Cohen & Lazarus, 1973), Blunting-Monitoring (Miller, 1980; Miller & Mangan, 1983), and Retreat-Encounter (Shontz, 1975). Roth and Cohen (1986, p.813) use the terms approach and avoidance as 'shorthand terms for the cognitive and emotional activity that is oriented toward or away from threat'.

Various findings indicate the possible role played by avoidance and approach strategies involved in adjustment to physical health problems. Scheier *et al.* (1989) for example found that for cardiac patients, approach coping was positively related, and avoidance coping negatively related to subsequent quality of life. Dunkel-Schetter *et al.* (1992) found that positive reinterpretations are associated with less emotional distress, whereas those who used escape avoidance strategies were found by e.g. Carver *et al.* (1993) to experience more distress. Work on a constellation of behaviours believed to be the opposite of type-C behaviour, that of 'fighting spirit', were found by various researchers to be related to longer survival following diagnosis of a terminal illness (e.g. Derogatis *et al.*, 1979; Greer, 1991). Although there have been contradictory findings in this respect, other studies have investigated the role of active coping and the expression of emotions in health outcomes. For example, methods of either verbal or written emotional disclosure have been found to be of benefit to some individuals in stress management (Bennett, 2000).

In general, it appears that people who tend to use *approach* strategies also tend to adapt

better to life stressors and to experience fewer psychological symptoms. *Avoidance* coping on the other hand, such as denial and withdrawal, tends to be associated with psychological distress, particularly if used beyond the initial crisis period (Holahan *et al.*, 1996). As Menaghan (1982, as cited in Holahan *et al.*, 1996, p.29) found, 'efforts to manage unpleasant feelings by resignation and withdrawal may increase distress and thus amplify future problems'.

The relevance of the approach-avoidance distinction to coping with stress was made clear in Horowitz's model of the stress reaction in trauma (e.g. 1976, 1979, as cited in Roth & Cohen, 1986, p.815). This model recognises the part played by denial which is 'characterised by numbness, removal of material from consciousness, and avoidance of reminders of the stressor'. Denial can be helpful in terms of protecting 'the ego from the overwhelming power of the stressor'. However, 'the need to accommodate to the reality of the stressor motivates the working through process'. The negative or maladaptive consequences of failing to do this are: 1) 'failing to perceive or take advantage of opportunities to escape from the stressful situation', and 2) denial leads to 'a build-up of pressure in the active memory, resulting in intrusions (e.g. nightmares, waves of feelings, and being reminded of the stressor by almost any stimulus'. Eventually 'oscillating periods of denial and intrusions become less intense, with an eventual working through of the stressful material' (Roth & Cohen, 1986, p.815).

The potential usefulness of being able to oscillate between approach and avoidance strategies in this way was also identified in a qualitative study by Smith (2005). She

found that teenagers who had experienced traumatic events and not needed assistance from professional services, had appeared to flexibly move between integrating events by remembering or talking to others about them (akin to problem-focused or *approach* coping) and protecting themselves from the impact of events by choosing not to talk about them (akin to emotional or *avoidance* coping). Such findings prompt questions regarding the nature of possible personal resources or abilities that allowed them to cope in this way that for individuals who *do* ask for help from professional services, may be less developed. Discovering the kinds of resources that allow this apparently adaptive method of coping, may provide target goals in therapy regarding the development of such resources.

Having reviewed traditional concepts of coping and their relationships with wellbeing, as well as some contemporary themes, the present study will now turn to the area of research specifically concerned with flexibility in coping strategy choice, and the psychological mechanisms that may enable this ability. It will begin with an account of research on what has been termed coping flexibility, and go on to describe research on the similar concept of coping adaptiveness.

3. FLEXIBLE COPING

3.1. Coping Flexibility and Wellbeing

Research findings in relation to what has been termed coping flexibility, and psychological and physical health outcome, further suggest the adaptive nature of being

able to switch from one type of coping strategy to another. For example, flexible coping has been linked with less depression and fewer physical ailments in studies of chronic illness and alcoholism (e.g. Ell, 1986; Shapiro, 1986), while rigid styles have been associated with higher levels of depression and higher relapse rates in people with alcohol addiction (e.g. Litman *et al.*, 1979; Shapiro, 1986). Negative associations have also been found between flexible coping and anxiety (e.g. Kaluza, 2000; Lester *et al.*, 1994; Mattlin *et al.*, 1990; Watanabe *et al.*, 2002).

3.2. Coping Flexibility

3.2.1. Mechanisms Underlying Coping Flexibility

The evidence reviewed above suggests that no singular style of coping can match the demands of every type of stressful event or situation. So what functions are necessary or at least contribute to the ability to switch to a more appropriate coping response? Carver *et al.* (1989, p. 281) recognised the need to give 'more thought to what self-regulatory functions are implicit in people's coping efforts'. They wondered what happens when a person's preferred way of coping did not fit the constraints of the situation. For example, 'what happens to a person who prefers to engage in active coping if the situation is one that requires restraint?' Although the nature of coping has come to be understood as a process, and differences in individual coping flexibility have been found, some researchers have begun to identify a gap in understanding regarding the mechanisms by which flexible coping is generated, and linked to adaptive outcome. Previous researchers in the field of coping flexibility (e.g. Lester *et al.*, 1994; Mattlin *et*

al., 1990), appeared to consider a variable pattern in coping alone to be effective.

However, Cheng (e.g. 2001, 2003) was the first to attempt to conceptualise the idea of flexible coping (based on major coping theories), as the ability to distinguish among different situations and to switch strategies to meet changing situational demands.

Consistent with the transactional approach to coping, she recognised the importance of examining individual differences in flexibility of cognitive appraisal. Like other researchers (e.g. Roussi *et al.*, 2000), she identified the potential usefulness of discriminative facility as a possible underlying factor which may enable this ability.

3.2.2. Discriminative Facility and Perception of Controllability

Discriminative facility refers to 'an individual's active appraisal of situational characteristics and their choice among alternative behaviours in response to changing contingencies' (Cheng, 2003, p.425). It is an individual differences variable which derives from social cognitive theory (e.g. Mischel, 1984; Mischel & Shoda, 1995), and describes the 'degree to which individuals are able to distinguish among the psychological features of different types of situations' (Roussi *et al.*, 2000, p.22). Some people tend to appraise information conditionally in terms of features of the context, while others tend to fail to take contextual features of a situation into consideration, and appraise the situation globally or unconditionally (Wright & Mischel, 1988, as cited in Roussi *et al.*, 2000). Those who are more able to take the contextual features of a stressful or threatening situation for example, into consideration before responding, are considered to be higher in discriminative facility. One such feature of situations which

has been found to be important in terms of response to stressful situations and outcome is controllability. Researchers have been able to identify a positive relationship between problem-focused coping and adaptive outcome, when the situation is perceived as controllable, and a positive relationship between emotion-focused coping and adaptive outcome when the situation is perceived as uncontrollable (e.g. Carver *et al.*, 1989; Collins *et al.*, 1983; Compas *et al.*, 1988; Endler, 1997; Folkman & Lazarus, 1980; Forsyth & Compas, 1987; Lefcourt, 1992; Roussi *et al.*, 2000; Vitaliano *et al.*, 1990). For example, being able to recognise that a stressful domestic situation is within an individual's control to change for the better, might lead to a more problem-focused coping response such as learning to assert to relevant others the reasons why they are finding the situation stressful, and explaining how they would prefer things to be. However, emotional or avoidance strategies, in this type of situation, may serve to maintain the stress experienced in it. However, not being able to recognise the lack of control in a situation involving difficult adjustments, i.e. involuntary redundancy, may lead to maladaptive coping such as continuing to prove your eligibility to your previous boss. The concept of discriminative facility has thus been implicated in the ability to appraise the controllability of a situation and to be 'an important mediator in the experience of psychological symptoms as a result of stress' (Roussi *et al.*, 2000, p.21).

3.2.3. *Perceived Controllability May Not Be Enough*

Although the ability to discriminate between controllable and uncontrollable situations may potentially lead to more adaptive coping behaviour, the usefulness of this process

may still depend on the accuracy of individual perception. In her review of previous research, for example, Cheng (2001) identified three patterns in individuals' broad appraisals of the controllability of situations.

1) 'Variability in perceived controllability across situations, with those able to appraise some stressful situations as controllable and others as uncontrollable, considered more flexible in cognitive appraisal;

2) Consistency in perceived controllability across situations (those with a consistent pattern of perceived controllability are considered to be less flexible in cognitive appraisal, e.g. those with type-A personality for whom control is believed to be overvalued, may incorrectly perceive uncontrollable situations to be within their control;

3) Consistency in perceived uncontrollability across situations, e.g. depressed individuals who tend to underestimate the controllability of situations (e.g. Beck, 1976), are considered less flexible in cognitive appraisal'. (Cheng, 2001, p.815)

The following classification by Cheng (2001) of individuals who tend to adhere to such patterns, helps to explain the ways in which such perceptions of controllability can lead to potentially adaptive or maladaptive coping responses:

The active inflexible group - those who use problem-focused coping regardless of controllability of the situation.

The passive-inflexible group - tend to use emotion-focused coping regardless of the controllability of the situation.

The flexible group - tend to be sensitive to subtle cues embedded in situations and to vary their behaviour accordingly.

The active - inconsistent group - can perceive differences in controllability but still prefer problem-focused strategies to cope with both types of stressful events.

The passive-inconsistent group - consistently perceive situations as uncontrollable, but tend to be inconsistent in their response and to subject their behaviour to situational demands. (Cheng, 2001, p.815).

Using a multi-method approach which included self-report measures as well as experimental exposure to controllable and uncontrollable stressful events, Cheng (2001) found that those participants whose perception of controllability did not match the actual

controllability of events had poorer performance on stressful tasks. Those who kept using a particular type of coping strategy or who varied their coping randomly, tended to experience more anxiety. These findings highlight the importance not only of the amount of control a person perceives, but more importantly, whether the perception of control and the coping responses match the actual characteristics of the stressful event.

In summary, flexible coping may be the mechanism that leads to successful adaptation. As Cheng (2001, p.814) suggests 'as our environment is ever changing, the adaptiveness of coping flexibility is implied'. However, flexibility in coping may only lead to adaptive coping if the coping behaviour fits the demands of the situation. In other words, someone may be flexible in the way they cope, but if the variability in coping does not continually match the demands of the situation, their coping attempts may not lead to adaptive outcome. Accuracy of appraisal of controllability therefore, appears to be an important pre-requisite to adaptive coping.

3.3. Coping Adaptiveness

A similar strand of research in the stress and coping literature is that of adaptiveness in coping (Kohn, 1996; Kohn & O'Brien, 1997; Kohn *et al.*, 2003), termed coping adaptiveness in the present study. In line with the goodness of fit hypothesis (e.g. Lazarus & Folkman, 1984; Cheng, 2001, 2003; Cheng & Cheung, 2005) between situational demands and coping strategies, they refer to adaptiveness as 'constituting coping consistently so as to reduce distress, or, at worst, not aggravate it...which requires

consistently appropriate flexibility of response in stressful situations' (Kohn *et al.*, 2003, p.112). Rather than understanding coping as either a style or a response, their conceptualisation of coping refers explicitly to the willful agency that may be involved when they define it as 'conscious adaptation to stressors, including hassles as well as traumas and major life events' (Kohn, 1996, p.194). The emphasis on 'conscious' implies individual awareness of a variety of alternative responses. Some people will be more adaptive than others in their choice of response. They also recognise the importance of appropriate matching of coping strategies to the controllability of the stressful situation, but felt that judgement in this sense was not sufficient for consistent adaptive response. They proposed that adaptiveness in coping requires the three following elements:

Judgement - *'which enables one to distinguish controllable situations that call for active coping from uncontrollable ones that are better handled passively, and to plan judiciously what to do in controllable situations';*

Determination - *'to act in the face of obstacles in situations judged controllable'; and*

Self-control - *'to respond passively even in the face of contrary emotion' or 'social provocation' in situations judged uncontrollable'* (Kohn *et al.*, 2003, p.112)

This notion is not new, and these authors acknowledge a conceptual debt to Reinhold Niebuhr's famous serenity prayer for "serenity to accept what cannot be changed, courage to change what should be changed, and wisdom to distinguish the one from the other" (as cited in Bartlett, 1968, p.1024). Another eloquent way of expressing this idea was once heard at a Quaker meeting, as cited in Sapolsky (1998).

"In the face of strong winds, let me be a blade of grass.
In the face of strong walls, let me be a gale of wind."

At first glance, there appears to be little theoretical distinction between the concept of coping flexibility (e.g. Cheng, 2001) and coping adaptiveness (e.g. Kohn *et al.*, 2003). Both definitions imply the importance of adjusting to the demands of the situation appropriately in order to ensure continued wellbeing. However, while Cheng (e.g. 2003) has focused largely on the cognitive appraisal involved in this process, Kohn *et al.*'s (e.g. 2003) interest in determination and self-control may further advance our understanding of additional abilities involved in the process. Another clear difference lies in the method of measurement of this ability chosen by these two approaches. Cheng and her co-researchers have tended to use various forms of direct measurement of coping flexibility. For example, respondents may be asked to indicate their judgement of controllability of, and preferred response to real or hypothetical events (e.g. Cheng *et al.*, 1999; Cheng 2001, 2003, Cheng & Cheung, 2005). In the development of the Personal Functioning Inventory (PFI), designed to measure coping adaptiveness, the idea was that 'people who coped adaptively followed the principles underlying the choice of adaptive alternative responses to stressful situations and the rejection of maladaptive alternatives' (Kohn *et al.*, 2003, p.113). It therefore, does not measure adaptiveness directly, but 'indirectly in terms of adherence to principles inferred to underlie consistent adaptive response...' (Kohn *et al.*, 2003, p.113). Although this measure has been found by its authors to be valid and reliable, using a nonclinical population, this method of measuring coping adaptiveness has not yet been tested on a clinical population.

Kohn (1996) highlighted the need for the development of measures for each of the three elements described above (judgement, determination, self-control). They considered that for a judgement measure, respondents could be asked to indicate what they consider to be 'the "best" response rather than their likeliest response' to scale item situations. A scale for determination could be based on 'hypothetical stressful situations where the person's judgement has elected an active response as most adaptive, but where there are strong inhibiting factors'. Respondents could be asked to indicate 'his or her subjective probability of actually executing that response'. The self-control scale could be based on 'hypothetical situations where a passive response has been elected as the most adaptive, but where there are strong contrary impulses', and again they would be asked to indicate the probability of them actually executing that response (Kohn, 1996, p.193). To the current researcher's knowledge, no such scales have as yet been developed. Future development of such scales could have important implications for treatment of stress and psychological difficulties. For example, as Kohn (1996) explains 'a client may have particular difficulty with one or all of these components'. For instance, 'one individual could have excellent judgement and self-control, but lack the determination to execute in situations calling for an active coping response', while someone else may 'have excellent determination, but lack either judgement or self-control, or both - and so on' (Kohn, 1996, p.193). In the absence of such scales meanwhile, thorough consideration of alternative psychological constructs that may be similar or related to these abilities, led to the following proposals in the present study.

Firstly, it could be said that the predictive power of judgement has been tested to some

extent in stress and coping research (outlined above) in terms of discriminative facility. In such studies, use of this concept has largely focused on the ability to distinguish controllable from uncontrollable situations, rather than on Kohn's (1996) notion of a direct indication of "best" response. However, given the wealth of empirical evidence that suggests the importance of perceived controllability to adaptive choice of coping strategy, it could be argued that measuring judgement of controllability would continue to be useful in investigations of coping adaptiveness.

Secondly, factors inherent in the concept of general self-efficacy, for example, that self-efficacious beliefs enable persistence and behavioural change (e.g. Bandura, 1992), suggest that it may be useful for exploring the ideas and questions posed by Kohn and his colleagues. Perhaps having high self-efficacious beliefs could enable an individual 'to act in the face of obstacles in situations judged controllable', for example, considered by Kohn *et al.* (e.g. 2003, p.112) to be important for coping adaptiveness.

Finally, aspects of mindfulness, i.e. 'keeping one's consciousness alive to the present reality' (Hanh, 1976), as opposed to automatic processing, may allow greater self-control, in order to 'respond passively even in the face of contrary emotion' or 'social provocation' in situations judged uncontrollable' (Kohn *et al.*, 2003, p.112). Each of these concepts will be described in more detail below, with the exception of discriminative facility, which has already been described above.

4. GENERAL SELF-EFFICACY

4.1. The Importance of Individual Belief in Self-efficacy

The concept of self-efficacy has been important in studies of factors that influence individual agency in human functioning. It derives from Albert Bandura's social cognitive theory which 'sees the adaptively functioning person as a well-tuned organism capable of adapting the environment and of changing parts of the environment to suit themselves' (Sheehy, 2004, p.29). Bandura (e.g. 1977b, 1986) emphasised the importance of the individual's belief in their ability to bring about a desired outcome by their own actions, and regarded the self-efficacy belief system 'as the foundation of human motivation, wellbeing and personal accomplishments' (Sheehy, 2004, p.29). Bandura (e.g. 1982) also suggested that individual self-efficacy expectations may be a better predictor of future performance than is past performance.

4.2. Self-efficacy and Persistence

Perceived self-efficacy promotes more vigorous and persistent efforts to master new tasks. Persons with higher levels of self-efficacy tend to approach challenging situations in an active and persistent style, whereas those with lower levels of self-efficacy are less active and/or tend to avoid such situations (Bandura, 1982, 1989, as cited in Holahan *et al.*, 1996, p.31). According to Bandura (1977, as cited in Sherer *et al.*, 1982, p.663), 'expectations of self-efficacy are the most powerful determinants of behavioural change because self-efficacy expectancies determine the initial decision to

perform a behaviour, the effort expended, and persistence in the face of adversity'.

According to self-efficacy theory, those with low self-efficacy tend to believe things are tougher than they really are. This can lead to stress and a narrow vision of how best to go about a problem. Those high in self-efficacy however, 'deploy their attention and effort to the demands of the situation and are spurred by obstacles to greater effort' (Bandura, 1986, p.394).

4.3. Self-efficacy and Psychological Distress

Low self-efficacy beliefs have been found to be an important feature of depression (e.g. Bandura, 1997; Maddux & Meier, 1995) as well as anxiety (e.g. Bandura, 1997; Williams, 1995). Self-efficacy beliefs have also been found to influence the relationship between stress and physical symptoms (e.g. Arnstein *et al.*, 1999; Marlowe, 1998). In addition, in health related behaviours, Bandura (1991, as cited in Schwarzer, 1992, p.219), found that 'both outcome expectancies and self-efficacy expectancies play a role in the adoption of health behaviours, in the change of detrimental habits, and in the maintenance of change'. An example of an outcome expectancy might be; 'If I were to eat more fibre and less fat I would lose weight'. A corresponding self-efficacy belief might make all the difference; 'I am capable of resisting fatty foods even if healthier alternatives are not available'.

Albert Bandura also asserted the importance in therapy of facilitating an increase in client self-efficacious beliefs in their own ability to overcome their psychological

difficulties. Much early work in this field was applied to phobic problems (e.g. Bandura, 1977; Bandura & Adams, 1977; Bandura *et al.*, 1977). Phobic behaviour was understood to be caused and maintained by beliefs about inability to cope (Johnstone & Page, 2004). Attempts to convince a person with a fear of flying, for example, that they are able to cope with the anxiety that ensues on entering an aeroplane, may not be enough. It was felt that therapy therefore would be more effective if it was geared toward altering the patient's expectations of mastery over the psychological difficulties they experience. As Bandura (1983, p.465) explains, 'it is mainly perceived inefficacy in coping with potentially aversive events that make them fearful'. A further implication is that clients will continue to do well if, as Sherer *et al.* (1982, p.670) suggest, 'they contribute their success in therapy to their own efforts rather than to the efforts of the therapist'. This in turn may contribute to greater self-esteem and empowerment of the patient.

4.4. General Self-efficacy

Self-efficacy has largely been conceptualized as referring to beliefs in ability in specific domains or situations. In other words it is a 'situation-specific competence belief' (Scherbaum *et al.*, 2006, p.1047). For example, in health related behaviours such as giving up smoking and other addictions (e.g. Annis & Davis, 1988), self-management of chronic disease (e.g. Holman & Lorig, 1992), academic and job performance (e.g. Robbins *et al.*, 2004; Stajkovic & Luthans, 1998). However, researchers have also been interested in the concept of general self-efficacy (e.g. Schwarzer & Jerusalem, 1999;

Sherer *et al.*, 1982; Skinner *et al.*, 1988). As Sherer *et al.* (1982, p.664) explain, 'an individual's past experiences with success and failure in a variety of situations should result in a general set of expectations that the individual carries into new situations'. The operationalisation of general self-efficacy 'as a trait like belief in one's competence' as opposed to Bandura's original formulation of self-efficacy as a state like belief in one's competence' (Scherbaum *et al.*, 2006, p.1049), has been a subject of some controversy. For instance, measures of general self-efficacy have not demonstrated greater predictive value above that of domain specific self-efficacy measures (Maddux & Gosselin, 2005). Nevertheless, positive relationships have been found between general self-efficacy and psychological wellbeing (e.g. Gillespie *et al.*, 2000). It has also been found to moderate the relationship between social support and mental health (e.g. Cheung & Sun, 2000), and to moderate the relationship between stress and dysphoria (e.g. Lightsey, 1997; Lightsey & Christopher, 1997). Positive relationships between general self-efficacy and self-esteem and between self-esteem and negative affect have also been found (e.g. Lightsey *et al.*, 2006).

In summary, factors such as persistence and effort believed theoretically to be involved in self-efficacy, suggest its usefulness in exploring the questions raised by Kohn *et al.* (e.g. 2003) and in the present study. In addition, situation specific self-efficacy could be considered more useful for exploring the ability to act despite obstacles, for example, in relation to particular or chronic stresses, given the familiar nature of them to the individual. However, the notion of generalised beliefs about one's competence, inherent in general self-efficacy, makes it more likely to predict individual differences in such

abilities , that may be helpful to the individual in dealing with a variety of potentially novel or ambiguous stressful situations.

4.5. General Self-efficacy and Coping Adaptiveness

In accordance with the transactional theory of stress (e.g. Lazarus & Folkman, 1984), environmental demands and personal resources are perceived simultaneously in the process of appraisal. Perceiving high self-efficacy in oneself may therefore be a helpful resource that can be used to counteract the potentially aversive effects of stress. Given what we know about avoidance and approach coping, and about self-efficacy, it could be reasonable to expect that those low in general self-efficacy may be more likely than those high in general self-efficacy, to use more avoidance coping strategies than approach coping strategies when encountering stressful situations. However, given the importance of flexibility in choice of coping response, as outlined above, a more pertinent question for this study, is whether high self-efficacy allows an individual to enact the most appropriate coping response in accordance with the nature of the stressful situation. As Maddux and Goselin (2005) point out, self-efficacy has been shown to influence self-regulation, for example, in terms of the level of challenge in goals that individuals set for themselves (e.g. Bandura, 1986; Locke & Latham, 1990). This would suggest that higher levels of self-efficacy should lead to higher levels of accomplishment. However, as Maddux and Gosselin (2005, p.227) point out, more may not be better, and 'although strong self-efficacy beliefs usually contribute to adaptive tenacity, if these beliefs are unrealistically high, they may result in the

relentless pursuit of (to observers) an unattainable goal'. This observation cautions against assuming that having high self-efficacious beliefs alone may account for coping adaptiveness, and although general self-efficacy may be necessary, it may not be sufficient. To the present researcher's knowledge, no research has as yet investigated possible relationships between general self-efficacy and coping adaptiveness, as conceptualized by Kohn *et al.* (e.g. 2003).

As alluded to above, another possible component in accounting for coping adaptiveness is mindfulness. For example, mindful awareness potentially may enable individuals to resist internal or social pressures to cope in ways that would not be beneficial to their wellbeing. An argument for the possible usefulness of this construct in predicting coping adaptiveness will now follow.

5. MINDFULNESS

Mindfulness derives from Buddhism and other Eastern contemplative traditions which emphasise the importance of cultivating attention and awareness. It is described by Hanh (1976, p.11) as 'keeping one's consciousness alive to the present reality'. As such, mindfulness refers to the ability to be consciously aware of what is happening in the present moment, rather than for example, dwelling on events in the past or on what may happen in the future. Individuals are understood to 'differ in the ability or willingness to be mindful and that the capacity to be mindful can be enhanced or depleted by various factors' (Brown & Ryan, 2003, p.822). For example, a person may deliberately turn

their attention away from information that they find difficult to accept, in order to defend themselves from difficult emotions that may ensue. Also, as Brown and Ryan (2003, p.823) explain, 'rumination, absorption in the past, or fantasies or anxieties about the future, can pull one away from what is taking place in the present'. Divided attention, due to concerns and anxieties, may also prevent more potentially helpful full awareness of what is *actually* happening in the present. Being mindful refers not only to what is happening externally, but also to what is happening internally. For example, mindfulness is thought to enhance awareness of one's own emotional and cognitive states. Other aspects of mindfulness include non judgemental acceptance, openness to experience, and the "beginner's mind". For example, as Bishop *et al.* (2004) explain, 'rather than observing experience through the filter of our beliefs, assumptions, expectations, and desires, mindfulness involves a direct observation of various objects as if for the first time'.

5.1. Mindfulness and Control of Response

Leary and Tangney (2005, p.9) state that 'unlike other animals, people can decide to control how they think, feel, and behave, then set about to do so'. This may still not always lead to their desired outcome, 'but the possession of a self at least allows the possibility that one can occasionally escape the influence of one's environment, history, and internal state, to act in autonomous, self-directed ways'. In mindfulness theory, being able to pay greater attention to internal states, for example, is thought to be important in terms of increased capacity for controlling one's behaviour and actions.

Being less mindful on the other hand, can lead to automatic responses that have not benefited from fully conscious awareness of the present reality, and considered choices before acting. According to Baer (2003, p.129), several authors have noted that 'self-observation resulting from mindfulness training may promote use of a range of coping skills'. For example, Kabat-Zinn (1982, as cited in Baer, 2003, p.129) suggests that 'increased awareness of pain sensations and stress responses as they occur, may enable individuals to engage in a variety of coping responses, including skills not included in their treatment programme'. Early or moment to moment recognition of such responses may be helpful in terms of controlling reactions to stressful situations, in order to prevent impulsive, maladaptive behaviours that are not appropriate to the nature of the situation.

The enhanced self-regulation associated with being mindful may contribute indirectly to greater psychological wellbeing in those high in this capability. Ryan and Deci (2000, as cited in Brown & Ryan, 2003), for example, found that 'being able to use self-regulation to disengage from automatic thoughts, habits, and unhealthy behaviours ...may be especially valuable in facilitating the choice of behaviours that are consistent with one's needs, values and interests' (Brown & Ryan, 2003, p.824).

5.2. Mindfulness Training and Psychological Difficulties

Mindfulness has been shown to be related to psychological wellbeing. Research has shown, for example, that mindfulness training has led to positive psychological and

physical outcomes (e.g. Kabat-Zinn, 1990; Shapiro *et al.*, 1998). Such training involves learning meditative techniques that help the individual to attend to internal experiences such as emotions, thoughts, and bodily sensations. Others encourage attention to external events or stimuli in the present moment, such as sounds or smells or sights. In Mindfulness Based Stress Reduction (MBSR; e.g. Kabat-Zinn *et al.*, 1992), participants' attention is directed in a variety of ways. In the body scan exercise, for example, people are encouraged to focus their attention on various areas of the body. In the raisin exercise, focus of attention is directed to the tastes, texture and appearance of a raisin. In sitting meditation, attention is focused on the sensations and movements of breathing. As cognitions and perceptions occur during these exercises, that may distract attention and perhaps lead to worrying thoughts or memories, people are encouraged to merely observe their occurrence with non-judgemental acceptance, rather than engaging in evaluation of them as 'good or bad, true or false, healthy or sick, important or trivial' (Marlatt & Kristeller, 1999, as cited in Baer, 2003). After noting such cognitions or perceptions, individuals are encouraged to return their attention to the original focus of either internal or external sensations or stimuli. Participants are also encouraged to apply their focus of attention in similar ways, during their everyday lives. In this way, they may potentially develop a greater sense of control over troubling cognitions.

Much research suggests the usefulness of mindfulness in the treatment of various psychological difficulties such as stress, anxiety, depression relapse, pain control and eating disorders (e.g. Kabat-Zinn, 1982; Kabat-Zinn *et al.*, 1992; Kristeller & Hallett,

1999; Shapiro *et al.*, 1998; Teasdale *et al.*, 2000). Mindfulness has also become a central component of Dialectical Behaviour Therapy (DBT; Linehan, 1993a, 1993b), in the treatment of borderline personality disorder; Acceptance and Commitment Therapy (ACT; Hayes, 1999); and Mindfulness Based Cognitive Therapy (MBCT; Segal *et al.*, 2002).

6. PSYCHOLOGICAL WELLBEING

Given the considered necessity to use a nonclinical sample in the second part of this study, as referred to above, and the consequent greater interest in psychological wellbeing than psychological distress, this study will now go on to describe the distinction believed theoretically to exist between them. (It is felt by the researcher that such a distinction may help to clarify any confusion that may arise in terms of interpreting empirical findings, from the interchangeable use of these terms sometimes found in the literature.)

Just as Cacioppo and Berrntson (2004, 2005) have contributed to increasing awareness that positive affect is not the opposite of negative affect, there is growing acceptance that wellbeing is not the opposite of psychological distress (e.g. Ryan & Deci, 2001; Ryff & Singer, 1998, 2000). Stewart-Brown and Janmohamed (2008, p.7), for example, define mental illness as encompassing 'mental disorders that affect mood, affect and the ability to function effectively and appropriately'. They define mental wellbeing, on the other hand, as relating to 'a person's psychological functioning, life-satisfaction and ability to

develop and maintain mutually benefiting relationships'. A dual continuum model (e.g. Keyes, 2005; Huppert & Whittington, J.E., 2003) would suggest the possibility that people can experience both psychological distress and psychological wellbeing, regardless of their usual or predominant wellbeing status. For example, people experiencing fluctuations in psychological distress may also experience psychological wellbeing.

6.1 Hedonic and Eudaimonic Approaches to Psychological Wellbeing

Within the wellbeing research domain, there are two currently recognised perspectives. The Hedonic perspective focuses on the subjective experience of happiness (affect), pleasure and life satisfaction (Ryan & Deci, 2001, Stewart-Brown & Janmohamed, 2008). The Eudaimonic perspective on the other hand, focuses on psychological functioning, good relationships with others, and self-realisation. Each of these perspectives will now be briefly considered in turn, before considering the reasons why a measure which encompasses aspects from both the hedonic and the eudaimonic perspectives may best be suited for psychological wellbeing outcomes.

6.1.1 *The Hedonic Perspective*

The hedonic perspective derives from Hedonism, a philosophy taught originally by Aristippus, a Greek philosopher from the fourth century BC, which suggested the goal of life 'is to experience the maximum amount of pleasure, and that happiness is the

totality of one's hedonic moments' (Ryan & Deci, 2001, p.144). In more contemporary times, psychologists from the hedonic perspective have viewed wellbeing as consisting of subjective happiness stemming from the experience of pleasure versus displeasure, and 'the attainment of goals or valued outcomes in varied realms' (Diener *et al.*, 1998, as cited in Ryan & Deci, 2001, p.144). The preferred measurement of wellbeing by those in favour of the hedonistic perspective, has tended to be scales designed to measure subjective wellbeing (SWB), which is believed to consist of life satisfaction, the presence of positive mood, and the absence of negative mood' (Ryan & Deci, 2001, p.144). However, questions exist, for example, about the extent to which SWB 'adequately defines psychological wellness' (e.g. Ryff & Singer, 1998), which lead one to query the overall effectiveness of such measures to capture the entirety of the concept of psychological wellbeing.

6.1.2. *The Eudaimonic Perspective*

The Eudaimonic perspective takes a distinctly different view of wellbeing that does not necessarily equate it with happiness in the same sense as the hedonistic perspective. As Ryan and Deci (2001, p.145) explain, 'not all desires, not all outcomes that a person might value would yield wellbeing when achieved...even though they may be pleasure producing'. Wellbeing is instead defined as the extent to which individuals are fully functioning, a term also referred to by Rogers (e.g.1963) in his account of human potential and self-realisation. Waterman (1993, as cited in Ryan & Deci, 2001) used the term eudaimonic to refer to the idea that people are more likely to experience

wellbeing when they live their lives in accordance with their daimon, or true self. This may consist of acting in accordance with deeply held values, for example (Ryan & Deci, 2001), that potentially lead to self-actualisation. However, the eudaimonic perspective has been viewed by (e.g. Diener *et al.*, 1998, as cited in Ryan & Deci, 2001) as an expert's definition of wellbeing, as opposed to defining wellbeing according to what people say makes them feel good, as found in SWB accounts, for example.

6.2. General Self-efficacy and Psychological Wellbeing

Research has shown that there may be links between general self-efficacy and psychological wellbeing. Some writers (e.g. Carver & Scheier, 1999; McGregor & Little, 1998) have highlighted the importance of feeling competent and efficacious in relation to achieving valued goals, for example, considered an important prerequisite for wellbeing from the eudaimonic perspective, as described above. As Schwarzer (1997) points out, people with high self-efficacy recover more quickly from setbacks and maintain their commitment to goals, considered important for psychological wellbeing. High self-efficacy beliefs are also expected theoretically to enable satisfying social relationships that can lead to a sense of life satisfaction (Bandura, 1997), a further element of psychological wellbeing.

Further evidence of the importance of general self-efficacy beliefs to wellbeing, comes from a study by Luszczynska *et al.* (2005), which found positive relationships between general self-efficacy and a variety of other psychological constructs including various

aspects of wellbeing, in a sample consisting of 8796 participants drawn from five different countries. Specifically in relation to wellbeing, positive associations were found between general self-efficacy and positive affect, life satisfaction, and quality of life. Additional evidence for the link between this construct and various aspects of wellbeing, including from physical health related fields, comes from Rottmann *et al.* (2010), for example, who found that greater general self-efficacy at baseline was associated with greater emotional wellbeing in breast cancer patients at 12 months' follow-up. General self-efficacy also accounted for a substantial variance in perceived quality of life in a Chinese sample of people with spinal chord injuries (Hampton, 2000). In addition, Charrow (2006) found that general self-efficacy predicted quality of life in a sample of older adults, even controlling for age, gender, marital status and health related variables. Further evidence of this link comes from Strobel *et al.* (2011), who found that general self-efficacy mediated the relationship between the personality variables neuroticism, extraversion, openness and conscientiousness on life satisfaction, and between openness and conscientiousness and subjective happiness. Further associations found include those related to negotiation of life goals (Rao & Seema, 2006), health related quality of life in people with a visual impairment (Talbert-Kipasa, 2009), and general self-efficacy was found to moderate the relationships between work context (job demands and job resources) and psychological wellbeing (positive affect, negative affect, and satisfaction with life) and engagement (defined as vigour and dedication), in a sample of public sector workers (Williams *et al.*, 2010).

6.3. Mindfulness and Psychological Wellbeing

Not only has mindfulness practice been shown to be effective for conditions such as depression (Mason & Hargraves, 2001), anxiety (Kabat-Zinn *et al.*, 1992), and symptoms associated with chronic fatigue syndrome (Surawy *et al.*, 2005) and with pain (Kabat-Zinn *et al.*, 1985), for example, mindfulness may also show promise for obtaining optimal wellbeing. Mindfulness theory would suggest that factors inherent in this ability may lend themselves well to some of the aspects of behaviour considered essential for psychological wellbeing. Non-judgemental acceptance of things as they are (e.g. Kabat-Zinn, 1990), for example, may help individuals to be accepting of themselves, one of the dimensions considered by, for example, Ryff and Keyes (1995) to be essential for psychological wellbeing. The quality of consciousness, as referred to by Brown and Ryan (2003), that enables moment to moment awareness of internal and external stimuli, may also be important. Such awareness may increase the likelihood, perhaps indirectly through self-regulation (Leary & Tangey, 2005), of responding in ways conducive to positive relations with others, for example. It may also increase the chances of being able to behave autonomously in accordance with one's chosen values or goals, rather than behaving automatically in response to such stimuli.

There is growing empirical evidence that supports the theoretically expected positive associations between these two constructs. Brown and Ryan (2003) for example, found significant positive relationships between mindfulness, as measured by the MAAS, with various emotional subjective wellbeing variables. These variables included positive

affect and life satisfaction, as well as eudaimonic wellbeing variables such as vitality, autonomy, competence and relatedness to others. Results from a study by Brown *et al.* (2009) found a positive association between mindfulness and SWB in a sample of undergraduates, working adults and mindfulness trainees, which was partly explained by its association with a smaller desire for increased wealth relative to current wealth. Further evidence comes from Chang *et al.* (2004) with the result that an 8 week Mindfulness Based Stress Reduction (MBSR) programme based on the work of Kabat-Zinn (e.g.1990), significantly improved positive state of mind, in a general population sample. In addition, a derivation of a manualised MBSR programme, known as Interpersonal Mindfulness Training (IMT), was shown by Cohen and Miller (2009) to positively relate to social connectedness and interpersonal wellbeing. Positive subjective mood was also found to correlate positively with mindfulness in the nonclinical subset of a sample, and also with positive mood in the clinical subset of a sample, by Chadwick *et al.* (2008) in their reliability study of the recently constructed Southampton Mindfulness Questionnaire (SMQ).

6.4. Coping Adaptiveness and Psychological Wellbeing

Consideration of the different forms that flexibility in coping can take, as identified and explored, for example, by Cheng (2001), as outlined above, led to the conclusion by that author, that flexibility in itself, is unlikely to confer consistent benefits to individual healthy adaptation. The more pertinent factor appears to be whether responses are congruent with the stressful situation at hand. Evidence for the relationship between

coping adaptiveness and psychological wellbeing is still largely unexplored. However, results accrued so far in relation to coping flexibility (e.g. Cheng, 2001), point to the likely importance of this ability for dealing with life's hassles and stressful events, and thus for maintaining wellbeing, or at least reducing psychological distress.

It would also appear that in different ways, general self-efficacy and mindfulness may enable people to take some control over their responses, whether these responses are thoughts, emotions, or behavioural actions, leading to positive outcomes in terms of wellbeing. However, some theoretical perspectives would suggest that it is the flexibility in response, whether cognitively, emotionally or behaviourally, especially if congruent with the situation at hand, that accounts for these differences, and that the effects of other constructs such as general self-efficacy or mindfulness, occur indirectly through the capacity for this type of flexibility that they may allow.

6.4.1. *Knowing when and when not to Act*

Certain views within psychological theory would suggest that the nature of individual internal constructs, such as beliefs, interpretations, emotions, personality, and perceptions, for example, would be predictive of psychological and physical wellbeing. Individual beliefs or perceptions of locus of control (e.g. Rotter, 1966), for example, may affect decisions about whether one should, or can, act in certain situations, depending on whether one's locus of control is perceived as internal or external, which may have implications for wellbeing. In short, such individual capacities potentially

may lead a person to respond or behave in more or less adaptive ways. In the therapeutic arena, awareness of potentially helpful cognitive or behavioural strategies, as used in cognitive behavioural therapy (e.g. Hawton *et al.*, 2004), for example, may lead to increases in patient use of such strategies. However, indiscriminate or inflexible use of these capacities and strategies may not necessarily lead to greater or sustained wellbeing. For example, a depressed patient, may in the course of therapy, become more aware of the ways in which negative interpretations can be unhelpful for them, and of strategies to help manage previously automatic cognitive or behavioural responses. However, not only does this awareness alone, not necessarily guarantee putting the potentially more helpful strategies into practice, awareness of when *not* to use a particular strategy, may also be important for improving or maintaining wellbeing. For example, if something tragic has occurred, it may not be adaptive to blindly use strategies that try to cast a more positive light or interpretation of the situation, at least not initially.

Further consideration will now be given to theory and empirical evidence that suggests the possible mediating effect of coping adaptiveness in the relationships between general self-efficacy and mindfulness with psychological wellbeing.

7. COPING ADAPTIVENESS AS A POSSIBLE MEDIATOR

A quote from Lazarus (1999) helps to remind us of the fluidity of events in our lives and, as such, that our responses to events may also need to be fluid.

'In any stressful transaction, we must evaluate coping options, and decide which ones to choose and how to set them in motion. The questions addressed vary with the circumstances, but they have to do with issues such as 'do I need to act', 'when should I act', 'what can be done', 'is it feasible', 'which option is best', 'am I capable of doing it', ...and 'might it be better not to act...' (Lazarus, 1999, p.78)

Theoretical reflection in relation to the current growth of positive psychology also highlights the importance of fluidity and appropriate flexibility in behaviour. This research domain focuses on things people tend to want more of, such as happiness, optimism, strengths and positive emotions. However, as McCarthy (2010, www.psychologyofwellbeing.com/201012/mental-yoga.html, retrieved 15 March, 2012) points out, 'too much happiness can make someone exceedingly obnoxious and difficult to relate to... too much optimism can lead us to make poor decisions and to lose touch with reality...' and '...even strengths in an exaggerated form can become a weakness (as confidence becomes arrogance, honesty becomes brutal, curiosity becomes nosiness'. As he explains, 'the key...is not to strive blindly for more of everything that is perceived as "good", but rather to better perceive the situations in which we find ourselves in and to adapt our minds accordingly using the exactly the emotions and psychological resources that are best suited for any specific situation'.

7.1. Social Cognitive Theory - Cognitive Affective Theory

Social cognitive theory (e.g. Cantor & Fleeson, 1994; Mischel & Shoda, 1998, as cited in Cheng, 2001) and cognitive affective theory (e.g. Mischel & Shoda, 1995) invoke the importance of coping adaptiveness, over other psychological constructs in relation to

wellbeing. Social cognitive theory, for example, helps to account for variations of behaviour across situations, by positing individuals as 'cognitive beings who can discriminate characteristics among different situations and flexibly adjust their behaviour according to changing situational constraints' (Cheng, 2001, p.814). In cognitive affective theory, individual behaviour is considered to reflect more than the characteristic dispositions conferred by particular personality traits, and is based on the premise that individual differences may also include the extent to which people are able to transcend their characteristic behaviours, depending on the nature or context of the situation. In terms of coping adaptively with stressful situations, it may be these individual differences in what Mischel and Shoda (1995, p.251) refer to as 'situation-behaviour variability', rather than more stable psychological characteristics of a person, that ultimately confer differences in health and wellbeing outcomes.

The effectiveness of coping flexibility, as conceptualised by Chen (e.g.2001), in comparison with other conceptualisations of flexible coping that consist of merely variations in coping response or variations in perceived controllability, help to illustrate this possibility. She found, for example, that flexible copers whose variable coping consisted of greater strategy-situation fit, than flexible copers who only varied their perceptual patterns or their coping patterns, reported greater effectiveness in the use of both problem and emotion-focused coping strategies in achieving desired goals.

Further elaborating the possible role of coping flexibility as conceptualised by Chen (e.g.2001) and Kohn *et al.* (e.g. 2003) as a likely mediator in relationships between

internal beliefs and wellbeing indicators, comes from a study by Gan *et al.* (2007).

These authors compared the predictive values of locus of control and coping flexibility on burnout in a Chinese student sample, and found that coping flexibility accounted for significantly more incremental variance beyond locus of control for the three identified dimensions of burnout, which were exhaustion, cynicism and efficacy. As these authors point out, previous results in relation to external locus of control and depression for example, as meta-analysed by Presson and Benassi (1996, as cited in Gan *et al.*, 2007), whose correlation coefficients reach an average of .31, lead one to question its predictive value in general expectancy outcomes (Gan *et al.*, 2007). Rather, as Gan *et al.* (2007, p.1088) go on to observe, 'what can prevent burnout, is not internal locus of control, but an accurate perception of the controllability of a situation, and an appropriate appraisal and matched coping strategies'. The incongruence that arises from a poor fit between coping strategy and stressful situation, is considered to be likely to lead to increases in subjective emotional stress, leading to burnout, rather than 'global beliefs about individual potential to control events'.

Gan *et al.* (2007, p.1089) consider the concepts of coping flexibility and locus of control to be closely related. As they explain 'locus of control refers to the perception of controllability, while coping flexibility refers to an individual's variance of controllability perception under different situations'. (Their study however, found no significant relationships between them.) Where they differ is that coping flexibility reflects 'an interaction between dispositional and situational factors'.

7.2. Transactional Theory

The dynamic processes between the person and situation, alluded to by Gan *et al.* (2007) above, are as referred to in transactional theory (e.g. Folkman *et al.*, 1986; Lazarus & Folkman, 1984).

Transactional theory would suggest that it is something about people's coping response in *interaction* with potentially stressful events that determines outcomes such as wellbeing. As Lazarus and Folkman (1984, p.185) explain, 'neither a trait nor an environmental perspective alone is adequate to the study of effectiveness, since coping depends on the relations among the demands of the situation and the person's resources and the appraisal and coping processes that stand between these and the outcome of the encounter'. They go on to suggest that mismatch between the appraisal and what is actually happening, can lead to seeing threat or harm where there is none, or failing to recognise threat or harm where it exists. In relation to adaptive outcomes such as social functioning, for example, these authors consider that, 'the effectiveness of appraisal within a specific encounter is determined in part by its match with the flow of events' (Lazarus & Folkman, 1984, p.186). The coping process is understood to be 'continuously mediated by cognitive reappraisals, which...follow and modify an earlier appraisal (Lazarus & Folkman, 1984, p.143), and coping strategy choice in order to respond effectively to changes in the situation'.

7.3. Eudaimonic Theory

Finally, understanding wellbeing from the eudaimonic perspective, may also suggest that coping adaptiveness would mediate the relationships between constructs in the present study. The flexibility involved in coping adaptiveness may make it more likely that people high in this capacity are able to avoid or disengage from behaviours that may prevent them from 'the realization of... ' their 'true potential', considered by Ryff (1995, p.100) to define wellbeing. From the eudaimonic perspective, an individual more able to experience rather than to avoid negative feelings of sadness (i.e. in response to the death of a loved one), would be considered to represent more fullness of functioning, and ultimately to have greater wellbeing. Such theorists would claim that 'emotional access and congruence are important for wellbeing (Ryan & Deci, 2001, p.151), and that, as also suggested by King and Pennebaker (1998), suppressing or withholding emotions has clear costs for psychological and physical health. Therefore, being able to discern situations when allowing oneself to experience or express emotions, is the most appropriate coping response, rather than suppressing them, may mediate the relationships between other variables and psychological wellbeing.

Study 1

Having considered the theoretical background to the questions raised in this study, the thesis will now go on to describe the rationale, method and results of study 1.

Discussion of the results of study 1 will then follow, before going on to describe the second part of this study which will conclude with a general discussion of theoretical and clinical implications, referring to results from both studies.

8. Rationale for and the Aims of Study 1

The wealth of research conducted so far in the area of stress and coping strongly implies the importance of choosing the appropriate means of dealing with the stressor, in terms of healthy adaptation. Given the huge variety of the nature of stressors that individuals may encounter, the importance of flexibility in choice of coping response, is also implied. Accurate appraisal of the controllability of a stressor appears to be essential toward this end. However, it is possible, as proposed by Kohn *et al.* (e.g. 2003) that other factors such as determination and self-control are also significant, in order for the individual to cope in ways that they believe are more helpful to them, in the face of pressures to behave otherwise. Whilst distinct from these, as yet unexplored ideas, general self-efficacy may be thought of as a characteristic that may be similar or related to determination, and mindful awareness may help an individual to exert greater self-control over their coping responses. Exploration of the latter two constructs in

relation to coping adaptiveness, therefore, may suggest their importance as possible enablers of this ability.

Although research on nonclinical populations suggests a positive relationship between coping flexibility and psychological outcomes, little investigation has been done on either coping flexibility or coping adaptiveness in clinical populations with psychological problems. If individual differences in coping adaptiveness can be shown to be related to differences in levels of psychological distress, investigations into factors underlying this ability, i.e. discriminative facility, mindfulness and general self-efficacy, may reveal important insights for therapeutic interventions.

The principal aims of study 1, therefore, are to explore whether individual differences in the psychological concepts of discriminative facility, mindfulness, and general self-efficacy, are related to individual differences in coping adaptiveness, in an adult clinical population with a variety of psychological difficulties. A further aim is to explore whether individual differences in coping adaptiveness are related to individual levels of general psychological distress.

9. Hypotheses:

- 1) Participants higher in discriminative facility, as measured by tendency to use appropriate monitoring or blunting strategies according to whether the outcome of stressful situations is within one's control, will be higher in coping

adaptiveness.

- 2) Participants higher in mindfulness will be higher in coping adaptiveness.
- 3) Participants higher in general self-efficacy will be higher in coping adaptiveness.
- 4) Participants higher in coping adaptiveness will have lower levels of psychological distress.

In order to avoid potential confusion, the following section will provide definitions of the constructs as intended in the current study, and of the main relevant terms that feature in the study.

10. Definition of Terms and Constructs used in this Study

- Adaptiveness in Coping - Kohn *et al.*'s (e.g. 2003) conceptualization of coping (termed coping adaptiveness in the present study) which refers to 'coping consistently so as to reduce distress, or at worst, not aggravate it ...which requires consistently appropriate flexibility of response in stressful situations' (Kohn *et al.*, 2003, p.112).
- Coping Flexibility - a term used by various authors (e.g. Lester *et al.*, 1994; Mattlin *et al.*, 1990) to refer to variability in individual coping

responses, and by e.g. Cheng (2001) to refer not just to variability in coping, but to flexibility that entails strategy-situation fit. As their understanding of coping flexibility is along the same theoretical lines as Kohn *et al.*'s adaptiveness in coping, this term may be used interchangeably with coping adaptiveness.

- Judgement - one of the, as yet untested, components theoretically hypothesised by Kohn *et al.* (e.g. 1996, 2003) to be necessary, but not sufficient for coping adaptiveness, and as described further above.
- Self-control - another of the (as yet untested) theoretically hypothesised components of coping adaptiveness, as conceptualised by Kohn *et al.* (e.g., 1996, 2003).
- Determination - the third of the (as yet untested) components, theoretically hypothesised by Kohn *et al.* (e.g. 1996, 2003) to be necessary but not sufficient for coping adaptiveness.
- Discriminative Facility - A construct used in the present study to measure individual judgement about the controllability of situations.
- General Self-efficacy - A construct used in the present study to investigate which psychological mechanisms may be relevant in allowing coping adaptiveness, in addition to those hypothesised by Kohn *et al.* (2003).
- Mindfulness - A further construct used in the current study to investigate whether mindful awareness may contribute to coping adaptiveness.

- General Psychological Distress - A term used in reference to experiencing symptoms stemming from a variety of mood and anxiety related psychological difficulties.

METHOD

11. Design

As an exploratory study, this research is primarily concerned with what makes coping adaptiveness possible. Therefore, a cross sectional design was chosen in favour of a group design. The latter kind of design may have revealed differences in coping adaptiveness, depending on which group participants belonged to according to a chosen criteria, but would not have answered the question of what makes these differences occur. Although it is acknowledged that a cross sectional design cannot infer causal relationships, it can usefully explore the different constructs and their interrelationships. Standardised questionnaires were used to measure the dependent variable (coping adaptiveness), the three independent variables (discriminative facility, general self-efficacy, and mindfulness), and the outcome variable (psychological distress).

12. Sample Size Calculation

Previous research findings that have used these or similar constructs, or a similar design, led to the expectation that moderate associations will be found in the present study. For example, Cheng (2003) found moderate effects between discriminative facility and a concept termed Need for Closure, in relation to coping flexibility, in a multiple regression analysis, with $R^2 = .34$ and $.29$, respectively. Kohn *et al.* (2003) found a large effect size for the relationship between coping adaptiveness and a Summed

Self-Rating for Adaptiveness score (SRSA) which included scores for participant self-ratings of adaptiveness, self-control, judgement, and determination, with $r = .71$. In addition, moderate to large effect sizes have been documented for the associations between general self-efficacy and psychological wellbeing, and between mindfulness and wellbeing. For example, Smith (1989) found the effect of increases in general self-efficacy in relation to reductions in anxiety was $r = .45$. Also, Brown and Ryan (2003) reported the moderate effect of $r = -.41$, in the relationship between mindfulness and depression. Although theory suggests that strong relationships may be found between the constructs used in this study, to be conservative, the sample size is based on being able to detect moderate associations only.

The number of participants required in this study to achieve statistical power was calculated to be 74. For a power of .8 and alpha of .05, to detect moderate associations between constructs, Green (1991) recommends the formula $N = 50 + 8M$ (where M is the number of independent variables) to determine the sample size. There are three independent variables in this study (discriminative facility, general self-efficacy, and mindfulness).

13. Ethical Considerations

In order to safeguard the participants from any potential threat to their wellbeing by taking part in this study, an application was made to Lothian Research Ethics Committee (LREC) for ethical approval. Approval was also sought from the local Research and

Development (R and D) Committee, and from a panel of Clinical Psychology Programme staff at the researcher's University. In addition, participants were asked to complete a consent form before taking part in the study. (Please refer to Appendix 1 for copies of the ethical approval documents, and Appendix 2 for a copy of the participant consent form).

Participation in this study involved the completion of a pack of questionnaires that measure the psychological constructs under consideration, by a clinical population. Although unlikely, having completed questionnaires that measure ability and beliefs in different domains, it was possible that participants would experience some distress. They may have wished for example to discuss their individual scores and what these implied about their current mental health status. This ethical issue was addressed by making assurances that those participants who went on to receive individual therapy, would have the opportunity to discuss the information gained from the measures, with their consent (indicated on the Participant Information Form; see Appendix 1) to inform therapeutic consideration of their current difficulties. In addition, participants were given contact numbers (indicated on the Questionnaire Pack front sheet; see Appendix 3) to receive support if needed from either the researcher or either of the two qualified clinical psychologists who supervised the study, all of whom are skilled at working with distressed people. These skills include close listening to worries and concerns, taking steps to ensure difficulties are addressed, and liaising with other services. Support from the two project supervisors would include easing access to participants' GPs or other clinical services that may be required, talking through concerns and difficulties

participants may have in relation to the research, and advising the researcher on the best course of action to ensure that any difficulties would be addressed.

Following the receipt of ethical approval and local Research and Development approval, recruitment of participants began. No participants found their involvement in the study upsetting or unsettling.

14. MEASURES USED IN THIS STUDY TO COLLECT DATA

14.1 Personal Functioning Inventory (PFI; Kohn *et al.*, 2003)

The PFI was developed as a new measure of adaptiveness in coping with stress, with the suggestion by the authors that the concept of adaptiveness might be more useful than traditional ideas of coping style that do not take the potential need for flexibility into account. The authors conceptualise coping adaptiveness as a trait. They suggest that 'people who cope adaptively, follow the principles underlying the choice of adaptive alternative responses to stressful situations, and the rejection of maladaptive alternatives' (Kohn *et al.*, 2003, p.113). Its items reflect principles believed to underlie this ability. In this respect, and unlike an alternative measure of coping flexibility, the Coping Flexibility Questionnaire (CFQ; Cheng, 2001), for example, the PFI measures adaptive flexibility of behaviour indirectly. Face validity of the items in the PFI, indicated their appropriateness for the purposes of this study. For example, *'I try to be fully informed and thoughtful about the choices I have to make,'* and *'I generally stay cool, even when I think somebody else wants to harm me'.*

14.1.1. Development of the PFI

The development of the PFI followed on from the development of the Situational Response Inventory (SRI; Kohn & O'Brien, 1997). The SRI consists of 19 multiple choice items asking respondents which of four alternative responses they would most likely make to each of 19 hypothetical but common stressful situations. For each item one alternative was active (problem-focused) and three were passive (one of each of emotionally palliative, emotionally ventilative, and avoidant). Respondents received one point for selecting the preferred alternative and zero for any other. However, the initial validation of this measure did not hold up after being found to be marginally unacceptable in a series of subsequent studies that used it (e.g. Kohn *et al.*, 1997; Vaisanen, 1997; Werner, 1997; Wiczorek, 1997).

14.1.2. Item Selection for the PFI

Items for the PFI were generated from the items in the SRI that had clear worst or clear best alternatives. These were reviewed to identify principles that made the best response best or the worst response worst. These principles included; *don't ruminate about problems, deal practically with practical issues, stay calm in the face of stress, try to make rational and informed choices*, and guided the writing of the final 30 PFI items. The PFI consists of 15 protrait and 15 antitrait items which make statements about individual styles of dealing with personal problems. Items were also written 'to reflect

characteristic, habitual, and recurrent ways of responding to stressors' (Kohn *et al.*, 2003), consistent with their conceptualisation of coping adaptiveness as a trait. Respondents are asked to indicate how much they agree with each item by choosing from a Likert scale running from 1-5, with 1 = Strongly Disagree, 2 = Disagree, 3 = Unsure, 4 = Agree, 5 = Strongly Agree. The 15 antitrait responses are subject to reverse scoring after completion by the participant. Examples of protrait items are '*I have no trouble staying calm during differences of opinion with my friends.*' and '*If I can't control whether something bad is going to happen, I try not to worry about it.*' Examples of antitrait items include '*Even remotely possible threatening events worry me*', and '*When things go badly, I find it hard to avoid even worse disaster*'. Higher scores on the PFI indicate greater coping adaptiveness. The minimum possible score is 30 and the maximum possible score is 150. There are no established bandings available to describe or categorise ranges of scores.

14.1.3. Reliability and Validity of the PFI

The thorough nature of the testing done by Kohn *et al.* (2003) and their significant findings in terms of internal consistency, and construct, predictive and discriminant validity, were sufficient to suggest its use in the present study.

The PFI has demonstrated construct validity by correlating strongly with measures of related constructs, e.g. self-ratings of adaptiveness, self-control, judgement, and determination (summed to form a Summed Self-Rating for Adaptiveness score (SRSA),

with $r = .71, p < .01$, and correlating at expected lower levels with the Marlow Crowne Social Desirability Scale (SF-MCSDS; Reynolds, 1982), designed to measure the need for social approval, with $r = .36, p < .01$. Reliability alphas for the PFI were considered satisfactory at .92 and .89 ($p < .01$) in two separate adult samples. Further construct validity for the PFI was demonstrated by Kohn *et al.* (2003) in the finding that it relates negatively with confidence in the ability to solve personal problems (Heppner & Peterson, 1982) with $-.63, p < .01$ (low scores in the Problem Solving Confidence (PSC) reflect high confidence). The PFI also relates negatively with perceived stress (Cohen *et al.*, 1983), with $-.61, p < .01$. Alpha reliabilities for the PFI, PSC and Perceived Stress Scale (PSS) were .86, .79 and .88 respectively.

The PFI's divergent validity has been further established by Kohn *et al.* (2003) due to its lack of correlation with measures that would be predicted not to be related to coping flexibility, such as Novelty Experiencing ($r = .10, p < .05$; Kohn & Annis, 1975). Kohn *et al.* (2003) also tested stability over time by administering it twice over a three week interval. It showed satisfactory test-re-test reliability with $r = .90, p < .01$. It was also found by these authors to correlate moderately and in the expected direction with the Beck Anxiety Inventory ($r = -.49, p < .01$), (BAI; Beck *et al.*, 1988).

14.1.4. Factor Analysis of the PFI

Replication of exploratory factor analysis by Kohn *et al.* (2003), using four separate samples, strongly suggests a one factor solution, named Adaptiveness, which accounted

for 28.58%, 20.81%, 19.99% and 26.45% of the variance in samples 1-4 respectively.

14.2. Frankfurt Monitoring Blunting Scales (FMBS; Voss *et al*, 2006b)

The Frankfurt Monitoring Blunting Scales (FMBS; Voss, *et al.*, 2006b), was chosen to measure discriminative facility. In the present study, the construct of discriminative facility refers to the ability to discriminate between controllable and non-controllable situations, inferred by the discriminative use of monitoring or blunting strategies.

Monitoring and blunting refer to preferences for information or distraction, respectively, in situations implying threat or danger. Adaptive coping is understood to pertain to 'the employment of monitoring strategies in controllable situations, and blunting strategies in uncontrollable situations.' (Voss *et al.*, 2006b, p.296).

The FMBS consists of eight hypothetical situations and eight possible ways of reacting to each of the situations. Four of the situations are controllable situations (*important job interview, icy road conditions, losing one's way in New York city, applying for a mortgage*), and four are uncontrollable situations (*waiting for surgery, threat of being laid off work, turbulent flight, being stuck in an elevator*). Controllability is defined as 'the possibility to change the outcome of a situation through active intervention' (Voss *et al.*, 2006b, p.297). Respondents are asked to try to put themselves in the situation and indicate whether they would react in the ways described. For example, '*Vividly imagine that, in ten days from today, you are scheduled for an interview for a job you always dreamed of. What do you do?*' The eight possible responses are made up of four

monitoring and four blunting strategies. An example of a monitoring strategy is '*I get all sorts of literature and videos to thoroughly prepare me for the interview.*' An example of a blunting strategy is '*I try not to think about it until the day of the interview.*'

14.2.1. Scoring the FMBS in the Present Study

In the original FMBS, respondents indicate whether they would respond in the way shown by choosing from a four point Likert scale with the options 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Always. Scores are summed for each of four scales: *monitoring in controllable situations, monitoring in uncontrollable situations, blunting in controllable situations, and blunting in uncontrollable situations*. Respondents are classified as either rigid monitors, rigid blunters, or adaptive copers, according to whether they score higher or lower than the group mean for each of the individual scales. However in the present study, although the same hypothetical situations and responses were used as described in the original FMBS, and in the same order, items were scored according to the method used by Cheng (2003) with the Extended Miller Behavioural Style Scale (EMBSS), which was based on the original Miller Behavioural Style Scale (MBSS; Miller, 1987). With this method, the endorsement of a strategy that matches the situation-appropriate criteria, as described above, is given a score of 1 (e.g., endorsing a monitoring strategy in the *Interview* situation described above, would be given a score of 1, due to the controllable nature of the situation.). The endorsement of a strategy that does not match the situation-appropriate criteria is given a score of 0 (e.g., endorsing a monitoring strategy in a situation deemed not to be controllable). In the

present study, participants indicated their endorsement of each strategy by choosing from 'A' = Yes, I would do this, or 'B' = No, I would not do this'. As with the EMBSS, the discriminative facility score derived from this method, ranges from 0 to 64, providing a continuous, interval level of measurement, necessary when using regression analysis, as *originally* intended in the present study. A higher score indicates a greater extent of discriminative facility. There are no established bandings used to describe or categorise ranges of scores.

Also, as the FMBS is conceptualized as a measure of coping style, revealed by scores on the individual scales, as described above, using the alternative method of scoring is more suitable in the present study. This is due to the greater interest of the study in individual differences in ability to distinguish between controllable and uncontrollable situations, rather than use of the FMBS as an alternative measure of coping style.

14.2.3. *Development of the FMBS*

The FMBS is a revised version of the Miller Behavioural Style Scale (MBSS; Miller, 1987). The MBSS was originally developed to identify distinctive attentional processing styles, in terms of health related risk and disease information, and has been used in a wide variety of contexts (e.g. Miller, 1995; Miller *et al.*, 1996; Miller & Schnoll, 2000). The developers of the FMBS extended the MBSS by the inclusion of the controllable situations, described above, that are lacking in the MBSS. Inclusion of controllable situations had been deemed necessary as 'Blunters and Adaptive Copers

show divergent behaviour only in controllable situations.' (Voss *et al.*, 2006b, p.296). Therefore, testing respondents only with uncontrollable situations 'results in an intermixture of Blunters and Adaptive Copers, because both preferably engage in blunting techniques when they find themselves in an uncontrollable situation' (Voss *et al.*, 2006b, p. 296).

In the process of developing the FMBS, the MBSS was translated into German, and the final version of the FMBS translated back into English by an independent bilingual speaker. Due to poor factor loadings found by e.g. Miro (1997) for two of the original situations in the MBSS (*dentist visit* and *hostage situation*), these were substituted by modified scenarios (*waiting for surgery* and *being stuck in an elevator*). In addition, the open answering mode with a dichotomous choice of response, as used in the MBSS (and EMBSS), was changed to the four point rating scale, as described above. The new controllable scenarios were based on those considered controllable, yet encumbering, or uncontrollable and perceived as threatening, by a small sample of individuals from different socio-economic backgrounds. Final item selection was based on confirmatory factor analyses and repeated sample testing over a period of three years (Voss, 2001).

14.2.4. Reliability and Validity of the FMBS and EMBSS

The FMBS scales assessing monitoring and blunting in uncontrollable situations were found by Voss *et al.* (2006b) to have better internal consistencies than those in the MBSS. However, although they reported Cronbach's α of .79 for uncontrollable

situations using the FMBS, they did not report figures for the MBSS. They found Cronbach's α of .70 for controllable situations using the FMBS, but they were unable to compare these scales with the MBSS, due to the exclusion of controllable situations in the latter scale.

The EMBSS has also been found to have good internal consistency with Cronbach's $\alpha = .81$ for the monitoring sub-scale and .70 for the blunting sub-scale (Cheng *et al.*, 2000) and .81 and .78 for the monitoring and blunting sub-scales, respectively (Cheng *et al.*, 2001). The reliabilities of the sub-scales of the FMBS in the current study, which for the first time used a scoring method based on that of the EMBSS, but with a slight simplification, as described above, were shown to be mixed. The monitoring sub-scale (32 items) was shown to have adequate internal reliability with Cronbach's $\alpha = .74$, but the reliability of the blunting sub-scale (32 items) was less than adequate with Cronbach's $\alpha = .66$. However, the latter relatively low alpha score may be a reflection of the scoring method which entailed reverse scoring the endorsement of items in which participants indicated 'No, I would not do this'. Such an endorsement would be given a score of 1 if not doing that item response matched the controllability or uncontrollability of the situation. This type of reverse scoring may have increased error variance, as participants had to consider whether they would not do something, and got a score of 1 for indicating they would *not* do an inappropriate strategy. Internal reliabilities for these sub-scales using only the items that were endorsed positively, (i.e. where participants indicated they would use a strategy considered appropriate for that situation; 16 items), were found to be just acceptable, and with an improved Cronbach's alpha for

the blunting sub-scale, with $\alpha = .70$ and $.71$ for monitoring and blunting, respectively. This improvement in reliability of the blunting sub-scale may have suggested its greater suitability for use in the present study. However, as the Cronbach's alpha for the 32 item monitoring sub-scale was higher than for the 16 item monitoring sub-scale, and as results of correlation analysis between the 16 item sub-scales and other measures used in this study did not improve significance, as tested by the researcher, the 32 item sub-scales were used.

The factor structure of the FMBS has been shown by Voss *et al.* (2006b) to be stable across two separate samples, using confirmatory factor analysis. Criterion validity of the FMBS is suggested in the finding by Voss *et al.* (2006a) that among good sleepers and primary insomniacs, monitors tended to have higher scores in anxiety than either blunters ($p < .01$) or adaptive copers ($p < .05$). However, they did not report the effect sizes for these findings. They also found that primary insomniacs had significantly higher monitoring scores than good sleepers in both uncontrollable and controllable situations.

Although the EMBSS was previously found to positively relate to coping flexibility using the CFQ (Cheng, 2003), suggesting the usefulness of discriminative facility to predict individual differences in this construct, the predictive powers of neither it nor the FMBS have yet been tested with the above measure of coping adaptiveness (PFI). The use of the FMBS in the present study therefore, may not only provide information about which psychological abilities enable coping adaptiveness, but may also further

contribute to the criterion validity of the FMBS.

14.3. The General Self-efficacy Sub-scale (GSES) from the Self-Efficacy Scale (SES) (Sherer *et al.*, 1982)

The GSES was used in the present study as a measure of general self-efficacy.

Respondents are asked to indicate how much they agree with a series of statements, using a 5 point Likert Scale ranging from A-E, with A = If you disagree strongly with this statement, B = If you disagree moderately with this statement, C = If you neither agree or disagree, D = If you agree moderately with the statement, and E = if you agree strongly with this statement. A to E responses are converted into 1- 5 for numerical scoring. Eleven items are reverse scored, with A - E responses converted to 5 - 1 for numerical scoring. High total scores represent high self-efficacy expectations. The minimum possible score is 17 and the maximum possible score is 85. There are no established bandings to describe or categorise ranges of scores. Items include '*When I have something unpleasant to do, I stick to it until I finish it*', and '*Failure just makes me try harder*'. An example of an item which is reverse scored is '*When I am trying to learn something new, I soon give up if I am not initially successful*'.

The GSES has been used in many domains including clinical, educational and organizational settings (Chen *et al.* 2001). Despite the development of other scales designed to measure general self-efficacy (e.g., Chen *et al.* 2001; Schwarzer & Jerusalem, 1995; Tipton & Worthington, 1984), it is still used with clinical as well as

nonclinical populations (e.g., Corrigan, 2006; Feeney, 2007; Fiori, 2005).

14.3.1. Reliability and Validity of the GSES

The reliability and validity of the GSES were thoroughly tested by its original developers (Sherer *et al.* 1982, Sherer & Adams, 1983). For example, Sherer *et al.* (1982) demonstrated its internal reliability with Cronbach's $\alpha = .86$. These authors demonstrated construct validity by correlation results in the expected directions with a number of other psychological constructs. For example, with Self-Esteem (-.51; Rosenberg, 1965), Interpersonal Competency (.45; Holland & Baird, 1968), Internal-External Control (-.28; Rotter, 1966), Personal Control (-.35; Gurin *et al.*, 1969), Social Desirability (.43; Crowe & Marlowe, 1964) and Ego Strength (.29; Barron, 1953), all at $p < .0001$. Criterion validity was demonstrated in the same study, by results in the tested relationships between general self-efficacy and a number of demographic variables believed to indicate levels of success in educational, vocational and military areas. For example, Employment (.27), Number of Jobs Quit (-.24), Educational level (.26), Military Rank (.21), all at $p < .01$, and Number of Times Fired (-.22, $p < .05$).

Although a later review of research that used the GSES, conducted by Chen *et al.* (2001) found that some coefficient values reported were below the generally accepted cut-off point of .80 (Henson, 2001, Nunnally & Bernstein, 1994), other researchers have found it to be just as reliable a measure of general self-efficacy as other measures designed to measure this construct. For example Scherbaum *et al.* (2006) used Item Response

Theory (IRT) to compare the psychometric properties of this scale with the General Perceived Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995) and the New General Self-Efficacy Scale (NGSES; Chen *et al.* 2001). IRT is useful in terms of evaluating measures 'in terms of how well the items function at different levels of the construct (e.g. high versus low general self-efficacy)' (Scherbaum *et al.*, 2006, p.1048). IRT is also useful for supporting reliability evidence in terms of item parameters which in turn supports the construct validity of a measure. The NGSES (Chen *et al.*, 2001) was found to marginally outperform the others in terms of item discrimination, item information and relative efficiency. However, the other two measures were also found to have acceptable psychometric properties, with reliabilities and means being consistent with those found in previous studies using these measures (e.g. Chen *et al.* 2001; Sherer *et al.* 1982; Scholz *et al.* 2002). Scherbaum *et al.* (2006) also found each of these measures to be more precise with levels of general self-efficacy in the average and below average range.

14.3.2. Factor Structure of the GSES

Initial item inspection of the GSES had suggested its usefulness in this study, given the closeness of many of them semantically to the notion of determination, and their possible role in enabling an individual to overcome obstacles that may otherwise prevent use of action or problem focused coping in controllable situations. For example, '*Failure just makes me try harder*', and '*When I have something unpleasant to do, I stick to it until I finish it*'. Also, although Sherer *et al.* (1982) found a one factor solution for

the 17 item GSES, Woodruff and Cashman (1993) found three factors which reflected the abilities suggested by Sherer *et al.* (1982) to underly general self-efficacy. These were Initiative, Effort and Persistence. The nature of these potential sub-scales particularly those of Effort and Persistence further suggested the possibility that the concept of general self-efficacy, as presently understood, may be related to the ability to be determined. Bosscher and Smit (1998), using confirmatory factor analysis on a 12 item version of the scale (GSES-12), also found evidence of these three factors. Although the alpha coefficients lent greater weight to its use as a unidimensional construct (.64 for Persistence, .63 for Effort, .64 for Initiative and .69 for GSES-12), for measuring self-efficacy alone, Scherbaum *et al.* (2006) point out that it is difficult to compare their findings with earlier research due to the modifications made to the measure. The question of the unidimensional or multidimensional nature of this measure may need further investigation. However, given the current lack of a scale to measure the concept of determination specifically, the semantic closeness of several of its items, as well as the nature of possible factors found in its structure, suggests the GSES may still be useful for exploring the questions raised in this study.

14.3.4. Superiority of the GSES for use in the Present Study

The GSES (Sherer *et al.*, 1982), as the original scale developed to measure general self-efficacy, was the first scale examined by the present researcher for reliability and validity. With the exception of the scale developed by Tipton and Worthington (1984) which was excluded for further consideration due to a lack of research on its

psychometric properties, beyond that of its original authors), other scales examined also appeared, due to their psychometric properties to be possible candidates for use in this study. For example, the greater efficiency of the Chen *et al.* (2001) measure found by Scherbaum *et al.* (2006) in terms of conveying as much information about general self-efficacy with fewer items than the other scales examined, may have suggested its superior use for this study. Also, the Schwarzer and Jerusalem (1995) scale, having been found to be reliable in many other countries (Scholz *et al.* 2002), may suggest its greater usefulness universally. However, the apparent greater use of the GSES (Sherer *et al.* 1982) with clinical populations than either the Chen *et al.* (2001) or Schwarzer and Jerusalem (1995) measures, to date, suggests the suitability of excluding the latter from the present research, which has recruited from a clinical population.

The 17 item version of the GSES was chosen in favour of the 12 item version as modified by Bosscher and Smit (1998) for two reasons. Firstly, the internal consistency of the 17 item version tended to range from .70 to .90 (Chen *et al.* 2001), while the .69 finding reported by Bosscher and Smit (1998) suggested the inferior internal consistency of the 12 item version. Secondly, the GSES-12 was tested on an elderly population, raising the question of how well it might generalise to a younger and clinical population, as used in this study.

14.4. Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003)

The MAAS was used as a measure of mindfulness in the present study. Mindfulness,

which theoretically allows greater awareness of thoughts and other internal and external stimuli, may allow an individual to resist responding automatically to thoughts and impulses that may be contrary to appropriate choice of coping strategy.

The MAAS is a 15 item instrument that measures people's tendency to be mindful of moment to moment experience. (It focuses on the presence or absence of attention and awareness of what occurs in the present.) Respondents are asked to indicate how frequently they have the experience described in each of the statements, using a six point Likert scale from 1 (almost always) to 6 (almost never). For example '*I could be experiencing some emotion and not be conscious of it until some time later,*' and '*I find myself doing things without paying attention*'. High scores on the MAAS reflect higher levels of mindfulness. The minimum possible score is 15 and the maximum possible score is 90. There are no established bandings to describe or categorise ranges of scores. Respondents are asked to answer according to what "really reflects" their experience rather than what they think their experience should be, in an attempt to control for socially desirable responding.

14.4.1. Development of the MAAS

Items were selected from an original pool of 184, with an approximate equal split between those reflecting mindfulness and mindlessness. Item reduction entailed excluding items that contained attitudinal components (e.g. patience, trust, acceptance) as well those reflecting motivational intent. Items reflecting potential consequences of

mindfulness (e.g. calmness or emotional or physical wellbeing) were also excluded. The items were then tested for adequacy by 'experts' in practicing mindfulness, with the resultant list being further tested by a team of six graduates in psychology. The 55 remaining items were included in several pilot studies with undergraduates. Items with non-normal distributions and which did not show a full range of responses on a 6 point Likert scale were excluded. The remaining 24 items were then subjected to factor analysis.

14.4.2. Reliability and Validity of the MAAS

Test re-test reliability was suggested by Brown and Ryan (2003) with a sample of psychology students over a four week period using a variance components analysis. This analysis found an intra-class correlation (equivalent to a Pearson r with two measures) of .81 ($p < .0001$). It was also found that Time 1 (3.78) and Time 2 (3.77) mean scale scores for these participants, were not significantly different ($t(59) = .11$, significance level not reported).

Convergent and discriminant validity was demonstrated in the MAAS by Brown and Ryan (2003) with correlations in the expected directions with a variety of measures. For example negative correlations were found with measures of Neuroticism (-.56; Costa & McCrae, 1992), Self-Consciousness (-.45; Fenigstein *et al.*, 1975), Impulsiveness (-.29; Costa & McCrae, 1992), Angry Hostility (-.41; Costa & McCrae, 1992), Depression (-.53; Radloff, 1977), and Anxiety (-.34; Costa & McCrae, 1992), all

at $p < .0001$. Positive relations were also found with measures of Self-Esteem (.39 and .50 in a student and adult sample respectively), Competence (.39, .68 in a student and adult sample respectively), and Vitality (.35, .40 .46), again all at $p < .0001$. In summary, the MAAS has been found to relate to various aspects of wellbeing and to how effectively people deal with stressful life events (Brown & Ryan, 2003).

14.4.3. *Factor Analysis of the MAAS*

Although exploratory factor analysis of the derived scale suggested more than one factor within the MAAS, the first factor accounted for 95% of the total variation across factors. Therefore only items loading on to the first factor were retained. This resulted in the final 15 item scale. Confirmatory factor analysis on another student sample as well as on a general adult sample, also revealed a single factor model with a Cronbach's α of .82 and .87, respectively.

14.4.4. *Comparison of Direct and Indirect Versions of the MAAS*

Brown and Ryan (2003, p.825) point out that items reflecting high levels of attention and awareness were eliminated both by raters and factor analysis (due to very low loadings), because as item raters noted 'it is relatively easy (if incorrect) to endorse being attentive and aware'. The authors also speculate that items reflecting less mindlessness are likely more accessible to most individuals, given that mindless states are much more common than mindful states (McIntosh, 1997; Varela *et al.*, 1991). Thus, Brown and

Ryan (2003, p.826) suggest 'indirect items may be more "diagnostic" than direct claims to mindfulness', and all items in the final 15 item version of the measure are of this nature. They tested this hypothesis by creating an alternative scale made up of thirteen of the original MAAS items rephrased to reflect direct statements of mindfulness. For example, '*I find it difficult to stay focused on what's happening in the present*' was changed to '*I find it easy to stay focused on what's happening in the present*'. A correlation of .70 indicated the two scales were measuring the same construct. They were both found to have very similar relations with the measures used to obtain convergent and discriminant validity. However, the MAAS was more strongly related to a variety of criterion measures of wellbeing, than the alternative scale whose items referred to mindfulness directly.

14.4.5. Alternative Mindfulness Scales

Other scales have been developed to measure mindfulness and have also been found to demonstrate reliability and validity. For example, the Freiburg Mindfulness Inventory (FMI; Buchheld *et al.*, (2001); Walach *et al.*, 2006), and the Kentucky Inventory of Mindfulness Skills (KIMS; Baer *et al.*, 2004). However the MAAS was chosen for this study specifically because it was developed to investigate the self-regulatory nature of mindfulness, rather than other attributes that have been associated with this construct, such as acceptance, trust, empathy, gratitude (e.g. Shapiro & Schwartz, 1999). This distinguishing feature of the MAAS lent itself more theoretically to the hypotheses being tested in the present research, than other scales designed to measure other aspects

of mindfulness.

14.5. The Symptom Checklist – 90 – R (SCL-90-R; Derogatis, 1994)

The SCL-90-R was used as an outcome measure for psychological distress. The SCL-90-R is a long established 90 item self-report symptom inventory, which has demonstrated reliability and validity in many studies which have used it (e.g. Barrett & Hurst, 1982; Kabat-Zinn *et al.*, 1992; Peveler & Fairburn, 1990, Summers & Hersh, 1983). It is designed for use with clinical as well as nonclinical populations to reflect the current symptom status of respondents, and to measure pre and post treatment effectiveness, for example. Each item is rated on a 5-point scale of distress (0-4) ranging from "Not at All" to "Extremely". Respondents are asked to read each item carefully and blacken the circle alongside it that best describes how much that problem has distressed or bothered them during the past seven days, including the day they complete the inventory. Examples of items include *'Repeated unpleasant thoughts that won't leave your mind'*, and *'Feeling low in energy or slowed down'*.

The SCL-90-R can be scored and interpreted in terms of nine primary symptom dimensions and three global indices of distress, as follows. The nine primary symptom dimensions are Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), Psychoticism (PSY). The three global indices of distress are Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and

the Positive Symptom Total (PST). However, as this study is interested in the relationships between the constructs under investigation and general psychological distress, rather than specific psychopathology, only the GSI scores were used in correlational analysis of results. Raw scores for the GSI are derived by totaling items endorsed and then dividing this total by the total number of items endorsed (i.e. 90 if there are no missing responses). For example, a total score of 120 would mean a GSI of 1.33. The minimum possible GSI score would be 0 and the maximum possible score would be 4. (The raw GSI scores can be converted to T scores, if required, for ease of comparison with other individual scores and to calculate individual percentile positions relative to a normative or referent population.) Lower scores on the SCL-90-R indicate less psychological distress. The formula $\text{Positive Dx} = \text{GSI} \geq \text{T63 or T2DIM} \geq 63$ can be used to screen for psychiatric disorders in nonpsychiatric populations (e.g. Derogatis & DellaPietra, 1994). However, there are no other established bandings to describe or categorise ranges of scores.

15. RECRUITMENT

An adult clinical population was recruited for this study. As coping styles can be considered an important factor in all psychological difficulties, and the outcome measure used in this study is for general psychological distress, a generic sample of participants with different psychological difficulties, was included. As participants were drawn from referrals to primary care psychological services, expected psychological problems

included stress and mood difficulties.

15.1. Inclusion and Exclusion Criteria

To be included in this study, participants had to be between the ages of 18 and 65 (representing the NHS working adult age range). They had to have been referred to either a clinical psychology service or another mental health professional trained to use psychological techniques, i.e. CPN or Clinical Associates in Applied Psychology in Primary Care (CAAPs), with mood or stress related difficulties considered after assessment to be mild to moderate in severity. It was required that potential participants had no previous experience of Cognitive Behavioural Therapy (CBT), as this is a skills based intervention that attempts to teach coping skills. Exclusion on this basis was to try to achieve a relatively pure sample that otherwise may contribute to the confounding of results. Patients who had been referred for cognitive assessment or whose difficulties may affect their understanding of questionnaire items were not included. Also, patients referred with severe and enduring problems, were not eligible for inclusion.

As the questionnaires are normed for English speakers, and non-English speakers could invalidate the results, any non-English speakers were not invited to participate.

15.2. Original Recruitment Plan

The original plan for recruitment for this study intended that the researcher would have the majority of responsibility for recruiting potential participants. At that time a significant part of her role in the department where she was based, was to assess people on the lengthy waiting list, as part of the department's routine triage system of patient allocation. It was thought that this would have provided ample opportunities to identify patients who met the criteria for participation.

It was also recognised at that stage that an additional recruitment strategy would be necessary to achieve the number of participants required for statistical power. Therefore it had been intended to approach other Clinical Psychology Departments within Lothian to seek additional recruiters.

An extended period of interruption to study was taken by the researcher, during which time it was not possible to continue with this research. By the time it was possible for work on this research to resume, the system of assessment and triage allocation of patient referrals, was no longer in operation. This was due to a major change in the structure of services. Therefore a new recruitment strategy had to be devised.

15.3. New Recruitment Strategy

As the previous large waiting list no longer existed, it became necessary for the

practicalities of recruitment to be shared more widely than originally intended.

Recruitment of participants at the researcher's base took place at a time of transition between individual service waiting lists to a centrally operated referral pathway for a new Psychological Therapies Team (PTT), within the local Community Mental Health Team (CMHT). Potential participants would now be identified from the old Adult Clinical Psychology waiting list by whichever therapist saw them at the point of assessment, as well as from referrals to the new PTT, either during their initial assessment by a clinical psychologist or other senior team member, or their continued assessment by the psychological therapist from whom they would go on to receive psychological treatment. Therapists and team members would include clinical psychologists, trainee clinical psychologists, nurse therapists trained in CBT, and CAAPs.

In order to achieve maximum recruitment potential, therapists in other Clinical Psychology Departments across Lothian, also helped with recruitment. Additional help with recruitment came from a local community voluntary agency. Although not part of the NHS, this organisation had growing links with the new PTT, as described above, and employed a CAAP, trained in CBT, who would be responsible for assessing new referrals to this organisation.

15.4. Recruiting the Recruiters

A visit was made to each of the departments to explain the rationale for the study, inclusion and exclusion criteria, and the procedure for recruiting potential participants. In the case of the voluntary organisation, this was done in the form of a meeting with the CAAP employed there, and the manager of the organisation. Otherwise, a brief presentation was given at department meetings in order to maximise exposure of the study to as many potential recruiters as possible. Presenting at department meetings also gave opportunities for any queries about the study, or recruiting procedure, to be answered by the researcher there and then. Questionnaire packs, colour coded for each department, were delivered for distribution by therapists to potential participants. These packs included the participant questionnaire with questionnaire front sheet (see Appendix 4), the Participant Information Sheet (PIS; see Appendix 3), the Participant Consent Form (PCF; see Appendix 2), and a stamped addressed envelope for the return of the questionnaire to the researcher. Copies of a written summary of the study rationale and recruiting procedure were distributed among therapists attending the meetings. Also, a box for the storage of completed questionnaires and consent forms, returned to the department, rather than posted to the researcher, was provided. Instructions for these to be kept in a locked cupboard until the researcher was able to collect them, were verbally given and also written on the box.

The individual number of questionnaire packs given to each department for recruiting was decided according to size of department and number of therapists likely to assess

participants with mild to moderate difficulties.

15.5. Recruitment Difficulties

A number of recruitment difficulties were encountered.

- Initial recruitment was slower than expected. One of the main reasons appeared to be due to the fact that otherwise eligible participants had already received CBT in the past. Recruiters also reported difficulties remembering to approach patients to enquire whether they would be interested in participating. This was seen to be due to having so many other things they had to remember to do or to deal with, during a session with a patient. There was also the difficulty of having given a questionnaire pack to a patient who had shown an interest in participating, ensuring the completion of the questionnaire by the patient, and its return to the researcher.
- Members of the PTT, as described above, reported an unusually high non-attendance rate for newly referred patients.
- Opportunities to regularly remind other therapists formally and informally of the ongoing need for recruitment, were only available where the researcher was based.
- The CAAP at the voluntary agency, as described above, who would have been the most likely member of their team to recruit participants, left the organization

to take up another post, not long after recruitment for this study began. This unexpected development left a significant gap in recruitment potential, especially given the mild to moderate nature of the majority of their referrals.

15.6. Strategies to Address Recruitment Difficulties

A number of steps were taken to address the recruitment difficulties.

- Return visits were made to each of the departments to a) remind therapists of the ongoing need for recruitment, b) clarify any doubts or queries regarding the inclusion/exclusion criteria, and c) capitalise on the possible advantages of being visible and better known to potential recruiters. It was felt that putting a face to the research may increase motivation to help with recruitment.
- A follow-up visit to the voluntary organisation, as described above, was made to discuss recruitment difficulties particular to their organisation. It was agreed that once the post of CAAP was reappointed, the rationale of the study and recruitment procedure would be explained to them. It was also agreed that other members of the team, although not trained to use formal methods of assessment to ascertain the severity of psychological problems, could use their clinical experience to judge whether potential participants met the mild to moderate criteria for inclusion in this study.
- Follow-up reminders were sent to each department by Email on a regular basis.
- Efforts were made to contact individual team leaders within one of the local

areas, and to specifically target nurse therapists, CAAPs, trainee clinical psychologists and assistant psychologists, who were all more likely than other therapists to see patients with mild to moderate difficulties, to help with recruitment. Questionnaire packs were distributed to each of the four identified team leaders to encourage individual team responsibility for recruiting.

- After discussion with the two research supervisors, it was decided to include NHS counsellors based at GP surgeries within the researcher's local area, and also likely to see mild to moderate cases, as potential recruiters. Applications were made to the local R and D department and to the LREC for permission to make these amendments to the study. The lead counsellor was approached to gauge opinion on the willingness of counsellors to help with recruitment, and the initial response appeared favourable, depending on whether ethical approval would be received. Ethical approval was duly received to include counsellors. Questionnaires packs were delivered to the lead counsellor for distribution to individual counsellors in the area. However these were then returned to the researcher with notification that the lead counsellor did not consider it appropriate for the counsellors to become involved in recruitment.
- Further discussion of the research and recruitment difficulties was initiated by the researcher at her department's Journal Club, and a presentation of the paper describing the Personal Functioning Inventory, as described above, was undertaken to a) stimulate more interest in the study and b) to remind therapists of the ongoing need for recruitment.

- It was agreed that patients attending a Depression Group in that area, would be approached by therapists running the group to try to recruit participants.
- Members of the Psychological Therapies Team (PTT), as described above, were given their own individual bundles of questionnaire packs to increase individual responsibility for recruitment.
- Team members responsible for the allocation of referrals were reminded to keep the need for recruitment in mind.
- A recruitment 'news sheet' was devised which detailed the number of completed questionnaires received to date and a target number the researcher hoped to achieve, a reminder of inclusion and exclusion criteria, and thanks for efforts made so far. This was emailed to each department secretary with a request to cascade to all therapists in their department and to print a copy of the poster to be placed in a prominent position in their central office for all potential recruiters to see. An update 'news sheet' was sent on a regular basis between approximately the middle of May and the end of September, 2009. A photograph of the researcher was later added to the weekly news sheet, to once again put a face to the research in the hope of increased personal profile. This 'news sheet' was also sent separately to all CAAPs in the area to try to increase the profile of the study to these potential recruiters.
- A further visit to the department whose location, due to the distance required to travel was particularly difficult for the researcher to visit, resulted in additional recruiting support. This support came from a newly employed CAAP who

agreed to remind other staff about the ongoing need for recruitment and to endeavour to recruit potential participants herself. The secretary in the department also agreed to direct the attention of potential recruiters to the most recent 'news sheet' detailing the update of number of participants and the ongoing need for recruitment.

Although it is difficult to say for sure which recruitment method produced the biggest number of participants, it seems likely that the 'news sheet' was the most successful strategy, as can be seen from the gradually increasing participant numbers after introducing this strategy, in Table 1.

Table 1: Recruitment 'news sheet' dates with corresponding number of participants recruited.

Recruitment Strategy	Date		No. of Participants Recruited
Initial Recruitment Efforts	Feb - May, 2009		7
All recruitment Efforts plus Recruitment 'news sheet'	May	22nd	10
..		29th	13
..	June	4th	16
..		11th	21
..		26th	24
..	July	7th	26
..		20th	28
..	August	13th	31
..		20th	32
..		27th	33
..	September	11th	37

15.7. Summary

It is not unusual for recruitment of participants to encounter some difficulties. However, it was unfortunate that the original strategy, which would have meant the researcher had the greater responsibility and opportunities to recruit, could not be adhered to, due to the changes beyond the researcher's control, described above.

16. PROCEDURE

Participation was entirely voluntary. Each participant was asked by their therapist at the time of assessment whether they might be interested in taking part in this study. If they were, they were invited to read the PIS during their assessment so that any questions they may have had, could be answered there and then. The PIS described the purpose of this study and what participation in the study would involve. Confidentiality was assured. If they agreed to participate, they were given a Questionnaire Pack consisting of the five measures described above, and a PCF. They were encouraged to take at least 24 hours to allow time for any doubts or further questions they may have had before giving their consent to participate. The PIS included details of a contact number for the researcher and her supervisors to ask any questions they may have had. A stamped addressed envelope was provided for the return of the completed PCF and Questionnaire Pack to the researcher. Alternatively, these could be returned to the department where they received them, for collection later by the researcher. Expected participation time was 35 to 40 minutes, and this was the extent of their involvement in

the study. Patients were assured that their decision to participate or not participate, would not affect the therapeutic treatment they would go on to receive. Participants were offered a chance to receive a summary of the main research results, by indicating their interest on the PCF. A total of 29, representing 78.37 % of the sample, indicated their interest in this.

17. ANALAYTICAL PLAN

The statistical analysis originally planned for study 1 included correlations, multiple regression and path analysis. Multiple regression analysis would indicate how much each of the independent variables predict coping adaptiveness. Path analysis would examine the relationships between each of the independent variables and the outcome measure for general psychological distress, as well as the relationship between coping adaptiveness and general psychological distress.

It is acknowledged that results from the above analysis would not indicate the direction of causality between variables, as different levels of psychological distress may cause differences in any of the independent variables or the dependent variable.

The first stage of analysis involved checking the assumptions of the data, to see whether parametric statistical analysis was appropriate. This included visually inspecting the data for possible outliers, missing data and data entry errors, checking the means and standard deviations, checking that the data is normally distributed, and checking for

skewness and kurtosis.

The second stage of analysis was correlation analysis to determine the extent to which the constructs used in the study are related.

RESULTS

Due to recruitment difficulties and the lower than required number of participants needed for multiple regression and path analysis, only correlation analysis was undertaken in this part of the study.

18. PARTICIPANTS

A total of 396 questionnaire packs were distributed around the various recruitment centres. A final number of 37 participants took part in this study, representing a 9.35% response rate. Of these participants, 16 were male (43.5%) and 21 (56.5%) were female. The ages of male participants ranged from 27 to 57, with a mean age of 43 (based on 15 out of the 16 who gave details of their age), and the ages of female participants ranged from 20 to 65, with a mean age of 38.8, (based on 18 out of the 21 who gave details of their age).

There are no cut-off points for any of the symptom dimensions that feature in the SCL-90-R with which to calculate the proportion of participants who experienced symptoms related to particular psychological difficulties. However, Table 2 shows how the total mean scores and standard deviations for participants on the depression and anxiety dimensions, compare with norms for psychiatric outpatients and for nonpatients as detailed in Derogatis (1994). The total mean scores for participants in each of these dimensions, although lower, compare similarly with the total mean scores for the

psychiatric outpatient sample, and as would be expected, are noticeably higher than the norms for the nonpatient sample.

Table 2 showing total mean scores for the anxiety and depression symptom dimensions of the SCL-90-R, compared with psychiatric outpatient and nonpatient norms.

SCL-90-R	Study 1 Sample	PsychOPs	Nonpatients
Dimension	<i>N</i> = 37	<i>N</i> = 1002	<i>N</i> = 974
Depression			
Mean (SD)	1.61 (.98)	1.79 (.94)	.36 (.44)
Anxiety			
Mean (SD)	1.32 (.93)	1.47 (.88)	.30 (.37)

19. STAGE 1

Total scores for each of the measures used in this study were calculated.

19.1. Checking Assumptions

With the decision that correlation analysis would be carried out in this study, the first step was to ensure that the nature and distribution of the data presented no obstacles to using parametric statistics.

Initial inspection revealed no data entry errors, but did bring to light the occurrence of some missing data. Of the 37 completed questionnaire packs, 5 included a measure that

was insufficiently complete to enable its inclusion in the data analysis. In each instance more than 10% of the measure had not been completed. In three instances the incomplete measure was the FMBS, and the other two were one each of the GSE and the PFI. Therefore, the final number of participant scores included in the analysis were 37, 36, 36, 37 and 34 for the SCL-90R, PFI, GSE, MAAS and FMBS respectively.

19.1.1. Descriptive Statistics

Table 3 shows a summary of total mean scores for each of the measures. The total mean score for the PFI (89.81, SD 17.79) is considerably lower than the mean scores reported by Kohn *et al.* (2003) in the development of this measure (e.g. 101.59, SD 17.85, $N = 105$, and 101.71, SD 13.60, $N = 140$) using analogue samples, and is also relatively low compared with the total possible score of 150. There are no studies available that have used the PFI with a clinical sample, with which to compare the PFI mean score in this study. However, the lower total mean score in the current study, than those in studies that used analogue samples, is perhaps not surprising, given the clinical nature of the current sample.

Similarly, there are no studies, to the current researcher's knowledge, that have reported the means and standard deviations for the Sherer *et al.* (1982) measure for general self-efficacy, using a clinical sample, with which to compare the total mean score for the GSES in the current study. However, at 55.19 (SD 13.55) it is considerably lower than the total possible score for this measure (85). It is also lower than reported mean scores

that have used this measure with nonclinical undergraduate samples (e.g. Sherer & Adams, 1983) with a mean score of 64.31 (SD 8.5, $N = 101$) and Scherbaum *et al.* (2006) with 64.19 (SD 10.61, $N = 606$).

The total mean score for the MAAS (53.95, SD 14.42) is a little lower than the mean found by e.g. Schmertz (2008) using a clinical sample who found a mean of 60.96 (SD 15.07, $N = 98$), and Jermann *et al.* (2009), who found a mean of 63.96 (SD 10.29, $N = 190$) using a nonclinical adult sample. The total mean score is also relatively low compared with the total possible score on this measure of 90.

The total mean score for the SCL-90-R (GSI) of 1.17 (SD 0.75) compares similarly with the total mean GSI score of 1.26 (SD 0.68) for the $N = 1002$ psychiatric outpatient normative sample reported by Derogatis (1994), but appears low compared with the total possible GSI score of 4.

The total mean score of the FMBS of 32.24 (SD 4.45) appears low compared with the maximum possible score on this measure of 64. (As this is the first study to use an alternative method of scoring the FMBS, as described above, comparing this mean with other means requires reference to studies that have used the EMBSS.) It compares similarly to the total mean scores of 33.95 (SD 14.48, $N = 200$ undergraduate students), 30.09 (SD 12.09, $N = 120$ undergraduate students) and 33.90 (SD 13.90, $N = 50$ adults) found by Cheng (2003) and Cheng *et al.* (2000, 2001), respectively (all samples from Hong Kong).

Visual inspection of histograms revealed no outliers for any of the variables, which meant that all cases could be included in the analysis. Further inspection of the histograms, and statistical analysis of skewness and kurtosis, showed that all variables were normally distributed except the SCL-90-R, with $z = 4.06$ and 4.21 for skewness and kurtosis respectively (both $p < 0.05$).

These results suggested the appropriateness of parametric statistics in the analysis of all the data except the scores for the SCL-90-R. A Log10 transformation was used on the SCL-90-R data, and this was successful in reducing the positive skew and kurtosis with $z = .103$ and $-.67$, respectively (both $p > .05$). The transformed variable was used in all subsequent analysis.

Having established that parametric statistics were appropriate for the analysis of the data, a series of scatter plots were conducted to visually check whether a linear relationship was observable between the variables, which would suggest that correlational analysis is an appropriate statistical tool. Each of the scatter plots indicated possible linear relationships, apart from that between the FMBS and the PFI, which was a little less clear.

Table 3: Total mean scores for each of the measures. (PFI = Personal Functioning Inventory, used to measure coping adaptiveness, GSES = General Self-Efficacy Sub-scale, used to measure general self-efficacy, MAAS = Mindfulness Attention and Awareness Scale, used to measure mindfulness, FMBS = Freiberg Monitoring Blunting Scale, used to measure discriminative facility, and SCL-90-R (GSI = Global Severity Index from the Symptom Checklist-90-R, used to measure general psychological distress).

	Mean	SD	N
PFI	89.81	17.79	36
GSES	55.19	13.55	36
MAAS	53.95	14.42	37
FMBS	32.24	4.45	34
SCL-90-R (GSI)	1.17	0.75	37

20. STAGE 2

20.1 Correlational Analysis

A series of 2-tailed Pearson correlations was conducted on the data. Table 4 shows the results of this analysis.

20.1.2. *Correlations with Coping Adaptiveness*

It was hypothesised in the present study that participants higher in discriminative facility would be higher in coping adaptiveness. However, the relationship between these variables was not found to be significant, with $r = -.14, p > .05$, not significant. It was

also hypothesised that those higher in general self-efficacy and those higher in mindfulness, would be higher in coping adaptiveness. Highly significant positive relationships were found between general self-efficacy and coping adaptiveness, and mindfulness and coping adaptiveness, with $r = .57$ and $.53$, respectively (both $p < .01$).

20.1.3 Correlations with General Psychological Distress

A further hypothesis in the present study was that participants higher in coping adaptiveness would be lower in general psychological distress. Coping adaptiveness was found to have a significant and negative relationship with general psychological distress, with $r = -.56$, $p < .01$ (lower scores on the SCL-90-R indicate less general psychological distress). Although it was not specifically hypothesised, general self-efficacy and mindfulness were also found to relate significantly and negatively with general psychological distress, both with $r = -.54$, $p < .01$. However, no significant relationship was found between discriminative facility and general psychological distress.

Table 4: Results from correlational analysis of the relationships between variables.

	PFI <i>N</i> = 36	GSES <i>p</i> <i>N</i> = 36	MAAS <i>p</i> <i>N</i> = 37	FMBS <i>p</i> <i>N</i> = 34	SCL90-GSI <i>p</i> <i>N</i> = 37
PFI	1.00				
GSES	.57**	1.00			
MAAS	.53**	.47**	1.00		
FMBS	-.14, <i>p</i> = .43	.26, <i>p</i> = .15	.08, <i>p</i> = .67	1.00	
SCL90-GSI	-.56**	-.54**	-.54**	-.2, <i>p</i> = .25	1.00

** $p < .01$

20.1.4. *Other Correlations between Constructs*

Again, although not specifically hypothesised in the present study, correlation analysis revealed a significant positive relationship between general self-efficacy and mindfulness, with $r = .47, p < .01$. However no significant relationships were found between discriminative facility and general self-efficacy or between discriminative facility and mindfulness.

20.1.5. *Limitations of Correlational Analysis*

With the exception of results in relation to discriminative facility, all other correlational results indicated significant relationships between constructs in the theoretically predicted directions. However, multiple regression and path analysis, as originally intended for this study, would have said more regarding the predictive value of one variable in relation to another.

DISCUSSION

The principal aims of study 1 were to explore whether individual differences in discriminative facility, mindfulness, and general self-efficacy are associated with individual differences in coping adaptiveness. A further aim was to explore whether individual differences in coping adaptiveness are related to individual levels of general psychological distress. The study investigated these theoretically predicted relationships, using an adult clinical sample with a variety of psychological difficulties. The results of each hypothesised relationship between variables will now be discussed, along with methodological limitations.

21. SUMMARY OF RESULTS

21.1. Discriminative Facility

21.1.1 *No Significant Associations with Coping Adaptiveness or General Psychological Distress*

The lack of a significant finding in the hypothesised relationship between discriminative facility and coping adaptiveness was surprising in light of previous research evidence which suggests the importance of judging the controllability of a stressor, to ensure adaptive response (e.g. Cheng, 2003; Cheng *et al.*, 2000, 2001). Use of the FMBS, as an instrument that measures this ability, also seemed likely to provide further evidence of an association with psychological distress, as found for example by Voss *et al.*

(2006a). However, no such association was found in the present study.

21.1.2. Possible Methodological Weaknesses in the FMBS for Measuring Discriminative Facility

Apparent inconsistencies in the individual completion of the FMBS in the present study, point to possible weaknesses in its format, and may help to account for the lack of significant findings. For example, some participants endorsed most or every appropriate response to some items, while appropriateness of response to other items was noticeably much weaker. Such inconsistencies may be due less to participant ability to discriminate between controllable and uncontrollable situations, than to the choice of responses provided in the questionnaire. For example, item no.6. (considered an uncontrollable situation); *Vividly imagine that you are on an airplane, thirty minutes from your destination, when the plane unexpectedly goes into a deep dive and then suddenly levels off. The non-smoking sign and the seatbelt sign are lit and you have a feeling that something is not right. What do you do?* It could be that in imagining or *actually* experiencing this type of event, individual participants would react in some different, yet still appropriate way, other than those suggested in the FMBS. Such differences in choice of appropriate response could dramatically affect participant scores on this measure.

Visual inspection of the raw data suggested that participants tended to do better on the controllable items than uncontrollable items, in terms of appropriate endorsement of

response. The relatively low total mean score may reflect this discrepancy, and compares similarly to the total mean scores reported by Cheng (2003) and Cheng *et al.* (2001). Although no such discrepancy was reported in either of the other two studies, such similarities in findings may reflect methodological weaknesses in relation to the uncontrollable items in both measures.

In addition, although the Cronbach's alpha for the monitoring (controllable) sub-scale used in the present study, indicates adequate internal consistency, the blunting (uncontrollable) sub-scale used was below acceptable. This finding further indicates possible methodological weaknesses in the uncontrollable items. As considered in the Method section above, the relatively low alpha scores may also be a reflection of the scoring method used. The improved Cronbach's alpha for the blunting (uncontrollable) sub-scale, using only the items that were endorsed and scored positively (16 items), may indicate a more reliable method of scoring this measure in any future use.

Although Cheng *et al.* (2000, 2001) did not report their method of distinguishing the monitoring and blunting sub-scales, the Cronbach's alphas found in the present study for both versions of a possible monitoring sub-scale, are a little lower than those reported by these authors. Similarly, the Cronbach's alpha reported here for each possible version of the blunting sub-scale are lower or comparable to those found by Cheng and her colleagues for the Cheng *et al.* (2000, 2001) studies.

Such findings go some way toward indicating the reliability of scoring the FMBS as done for the first time in the present study. However, the lower than acceptable Cronbach's alpha for the 32 item blunting sub-scale, may suggest a contra-indication for the appropriateness of either the scoring method used in the present study, use of negatively endorsed items in the scale, or the scale itself, for measuring discriminative facility in future studies. As relatively new measures, further research into the predictive reliabilities of the FMBS and the EMBSS may help to dispel any doubts raised by findings in the present study in relation to their future usefulness in terms of measuring this construct.

Perhaps a more informative self-report format to measure judgement of controllability would be one that allows participants to indicate what they would consider the *best* response from a choice of responses, as suggested by Kohn (1996). Another possible methodological alternative to exploring abilities in this domain might be experimental methods employing exposure to innocuous controllable or uncontrollable stressful situations.

The questions raised above in relation to the scoring method used for the FMBS, may help to account for the lack of associations found in this study between discriminative facility and any of the other constructs used. Cheng (2003) for example, did not appear to encounter the same difficulties when she found a significant relationship between discriminative facility and coping flexibility using the EMBSS. It could also be however, that differences in outcome between their results and those of the present study

are due to the difference in items between the FMBS and the EMBSS, and also the alternative method used by them to measure flexibility in coping, than that used in the present study. In addition, unlike the present study, their samples were not drawn from a clinical population with psychological difficulties.

The lack of associations found between discriminative facility and coping adaptiveness for example, may be due to the fact that contrary to other predictions, judgements and thoughts related to controllability do not much influence whether people are flexible in their coping style. This might imply that flexibility in coping is not consciously or rationally determined. In Smith's (2005) qualitative study, nonclinical participants in the aftermath of traumatic events, appeared to have a sense of when it was helpful for them to engage in processing the events that had been stressful, by talking about them, and when it was more helpful to protect themselves from the impact of events, by not processing them in this way. Further qualitative research of this nature may help to establish whether participants are consciously aware of why they choose to protect themselves or to process events, and whether this apparently adaptive flexibility, given the nonclinical status of these participants, is enabled by some unconscious mechanism, or conscious appraisal of contextual features such as controllability.

It could be that conscious and rational judgement of situations *is* important in enabling flexible coping, but that being able to discern and take account of internal and external contextual features other than controllability, is what matters. For example, being able to recognise the potentially adverse effects of tiredness, mood, or concurrent stresses

that may affect ability to choose the most adaptive coping response.

Alternatively, it could be that using a generic clinical sample confounded the results in the hypothesized relationship between these constructs. Perhaps distinct features of individual psychological disorders, and individual experience of them, have a greater or lesser effect on this ability, something that further research could explore. Accurate appraisal of the items in the FMBS may also depend on other psychological features, such as mood, concurrent pressing demands on attention, energy levels, and intelligence, for example.

21.2. Mindfulness and Coping Adaptiveness

The positive and significant relationship found between mindfulness and coping adaptiveness, was as hypothesised in the present study. To find such a strong association highlights the possible role played by this ability in enabling coping adaptiveness, and also provides further support for the growing recognition in psychological research of the benefits of being mindful. Although other aspects of mindfulness, such as 'open or receptive awareness and attention' (Brown & Ryan, 2003, p.822), may be playing a role in this relationship, the self-regulatory aspects, which provided the main framework for the development of the MAAS, are strongly implicated. Therefore, the concept of mindfulness, as measured by the MAAS, may be a useful starting point toward understanding what enables individuals to, for example, resist impulses or pressures to cope in ways that are not adaptive.

21.3. Mindfulness and General Psychological Distress

The significant relationship found between mindfulness and psychological distress, is in line with previous research evidence that suggests an association between mindfulness and various aspects of psychological distress such as anxiety and depression (e.g. Kabat-Zinn *et al.*, 1992), pain management (e.g. Kabat-Zinn *et al.*, 1985) and stress (e.g., Speca *et al.*, 2000). Again, the intended multiple regression and path analysis for this study, would have told us more about the predictive value of mindfulness in relation to the other variables. Nevertheless, the implied importance of mindfulness to psychological distress, merits continued use of mindfulness based strategies in the alleviation and prevention of psychological difficulties.

As a cautionary note however, it may be important first to ascertain whether for any particular individual, learning to be mindful may prematurely disable defences that developed in response to trauma and which may still be playing a vital, if maladaptive role in their psychological functioning. Horowitz (2002), for example, in referring to individual differences in a related concept of self and relational observation, explains how a lack of self-observation can protect an individual from the horror or despair of realising the reality of having been present in a stressful or traumatic situation.

Traumas in childhood, for example, 'can diminish later levels of self-observational skill' (Horowitz, 2002, p.116). As adults, self-observational skills, such as those taught in psychotherapy (including mindfulness) can increase these skills (Herman, 1992;

Horowitz, 1991). Therefore, the therapist's awareness of individual fragility in this respect could be essential in terms of providing adequate psychological holding and support of their patient as they develop these abilities.

21.4. General Self-efficacy and Coping Adaptiveness

As expected, the results of this study indicate that being high in general self-efficacy may enable coping adaptiveness in potentially stressful situations. The strong association found between these two constructs, is in line with other findings that suggest the usefulness of general self-efficacy in terms of a possible buffer to the potentially adverse effects of stress. For example, Jerusalem and Schwarzer (1992) found that those low in general self-efficacy tended to be more at risk of appraising stressful situations more negatively, whereas as those higher in general self-efficacy were able to appraise situations in such a way that enabled them to view the stressful situation as challenging rather than threatening. In terms of coping adaptiveness therefore, the difference in appraisal that being higher in general self-efficacy may allow, may increase the chances of coping in ways that are appropriate to specific situations. Those who are lower in general self-efficacy on the other hand, may be more prone to perceived helplessness when faced with stressful situations, which in turn may inhibit their ability to exercise the most adaptive response.

Given the possible associations between general self-efficacy and determination, as considered earlier in this study, the positive relationship found here between general

self-efficacy and coping adaptiveness may lend weight to the theoretically suggested importance of determination in the process of selecting the most appropriate coping strategy for any specific stressful situation (e.g. Kohn *et al.*, 2003). Although the conceptual properties of general self-efficacy include more than those that may relate or be similar to determination, the items that appear most to infer this ability in the GSES, for example, might be a useful starting point in the possible future development of a scale designed specifically to measure determination. Alternatively, the concept of general self-efficacy could be explored further in relation to coping adaptiveness, in order to further establish its potential role in developing this ability.

This finding also counters the cautionary note by Maddux and Gosselin (2005) that being too high in general self-efficacy may lead to unhelpfully relentless pursuit of an unattainable goal. At least in terms of choosing appropriate coping responses, if the items in the PFI do indeed reflect the principles underlying the ability to cope adaptively, it would appear that being higher in general self-efficacy does not necessarily equate to blind persistence in following a preferred course of action. Of course, as outlined above, being high in self-control and judgement, as suggested by Kohn *et al.* (e.g.2003), and mindfulness, as proposed in the current study, may also be required in this process. Nevertheless, the results of this study indicate the potentially important influence of general self-efficacy in terms of coping adaptively. Further investigation using experimental methods rather than self-report methods, may provide even more persuasive evidence of a link between these constructs. Also, a larger sample could have tested the interrelationships between these constructs using path analysis, as

intended.

21.5. General Self-efficacy and General Psychological Distress

The significant negative relationship found between general self-efficacy and psychological distress, was unsurprising, given existing evidence of associations between self-efficacy and psychological disorders such as depression and anxiety (e.g. Bandura, 1997; Cane & Gotlib, 1985; Davis & Yates, 1982; Williams, 1995). This result can do little to tip the balance in terms of the theoretical argument (e.g. Maddux & Gosselin, 2005), over which type of self-efficacy measure (general or domain specific) is best placed to predict psychological distress. However, it does add to existing evidence (e.g. Cheung & Sun, 2000; Gillespie *et al.*, 2000), that scales that measure general self-efficacy, may be at least as useful as domain specific scales, in this respect.

Again, the intended multiple regression and path analysis would have told us more about the predictive value of general self-efficacy in relation to coping adaptiveness and psychological distress. However, results of the present study are sufficient to suggest the usefulness of further exploration of these constructs in relation to each other.

21.6. Coping Adaptiveness and General Psychological Distress

The significant negative relationship found between coping adaptiveness and general psychological distress, was as predicted in the present study. This result lends weight to

previous findings, i.e. the significant negative relationships between coping adaptiveness and perceived stress, and between coping adaptiveness and anxiety, found by Kohn *et al.* (2003), using the PFI. It also adds to the growing evidence base that indicates the importance for psychological health of flexible use of coping strategies according to the nature of individual stressful experiences, rather than consistently using the same coping style, or randomly using different coping styles. As a measure of coping ability, compared with other more established measures such as the COPE (Carver *et al.*, 1989) or the Coping Inventory for Stressful Situations (Endler & Parker, 1991) for example, the PFI is still in relative infancy in terms of reliability and validity. However, as the first study (to the present researcher's knowledge) to test the PFI on a clinical sample, the significant result found here, provides some preliminary evidence of its possible usefulness in the therapeutic arena. For example, early in its development, it was suggested that such an adaptiveness measure could be used in therapy 'to assess the extent to which therapy improves adaptive coping generally, and beyond just dealing with the focal stressor' (Kohn & O'Brien, 1997, p.90). In this way, it could be a useful outcome measure in service evaluation research, for example.

22. METHODOLOGICAL LIMITATIONS

22.1. Possible Psychometric Weaknesses in the FMBS and the PFI

As discussed above, the results of this study suggested some possible psychometric weaknesses in the FMBS, in relation to its relative infancy and usefulness in measuring discriminative facility. However, the PFI is also a relatively new measure, with a

limited history of use in coping flexibility research. The significant results found here, suggest its further criterion validity in terms of predicting psychological distress. However, the lack of association found between it and discriminative facility may reflect a weakness in its construct validity, rather than psychometric weaknesses in the FMBS, given the associations found previously between discriminative facility and other measures of coping flexibility. It could be that the items in the PFI reflect underlying factors that make up some other adaptive construct, other than flexibility in coping. Factor analysis of this measure, which may have shed further light on this question, was however, beyond the constraints of the present study.

22.2 Limited Control of Potentially Confounding Influences on Participant Coping Abilities

One of the main criteria for exclusion to participate in this study was that participants should not have had experience of Cognitive Behavioural Therapy (CBT). Exclusion on this basis was due to the potentially confounding effects of possibly having learned adaptive ways of coping, implicit in this form of therapy. However the potentially confounding aspects of other professional guidance in coping skills that participants may or may not have experienced before participating in this study, was not controlled. This therefore, may have led to a less than pure sample in terms of contributing to theoretical understanding of the psychological phenomena that may allow or disallow coping adaptiveness, without therapeutic input.

22.3. Recruitment Weaknesses and Lessons Learned

Despite the exhaustive efforts made in terms of recruitment, by the present researcher, the final sample in the present study was disappointingly small. Although, as discussed above, the relatively small sample size led to some moderate and large significant effect sizes, a bigger sample may have increased the significance and led to even more convincing results. A bigger sample would also have allowed the potential to use more sophisticated data analytic tools to build a model of the direct and indirect effects between all the constructs. Future research of a similar design may benefit from employing at an earlier stage, some of the strategies that were not tried until recruitment difficulties began to be encountered, in the present study. For example, the idea of regularly sending an update on progress to the other potential recruiters in the researcher's local area, appeared to improve recruitment efforts, leading to an increase in the number of completed questionnaires (see Table 1 for details of increments in number of participants recruited).

23. SUMMARY

It seems likely that individual high beliefs and expectations of efficacy, and high awareness of both internal and external stimuli, are important in many areas of functioning. The present study has shown some preliminary promising indications of their importance in terms of coping adaptively to life's stresses. The possible theoretical relevance of determination and self-control to coping adaptiveness, as conceptualised by

Kohn *et al.* (e.g. 2003), remains to be explored in future research. Such research might include the development of scales designed specifically to measure these abilities.

With the exception of the non-significant findings in relation to discriminative facility, the significant findings in this study, despite the relatively small sample size, indicate the possible importance of these constructs in relation to each other. With $r = .14$, even a bigger sample would be unlikely to make any difference to the size or significance of this effect in the relationship between discriminative facility and coping adaptiveness. However, it is possible that given the effect size of $r = -.20$, a bigger sample may have led to a significant finding in the relationship between discriminative facility and psychological distress. In any case, it would appear that general self-efficacy and mindfulness, at least, may be important factors involved in the process of coping flexibly and adaptively to life's stresses and difficulties.

These findings led to the decision to further explore the observed relationships between constructs, in a second study. This study set out to test the possible mediating effect of coping adaptiveness in the predicted relationships between general self-efficacy and mindfulness with psychological wellbeing.

Study 2

It was proposed in the first part of this study that being mindfully aware of the present moment, having high general self-efficacy, and high discriminative facility, may be three factors that contribute to the ability to cope flexibly, despite, for example, potential social or personal pressures to behave otherwise. A further prediction was that those individuals who appear to cope more flexibly than others, experience less psychological distress.

As no significant relationships were found between discriminative facility and any of the other constructs in the first part of the study, this construct was excluded from any further analysis in the second part of the study. However, the results describing significant correlations between the other constructs warranted further exploration of the possible predictive relationships between them. The results from study 1 suggested (strong) significant relationships in the expected directions between general self-efficacy and coping adaptiveness, between mindfulness and coping adaptiveness, and between coping adaptiveness and psychological distress. General self-efficacy and mindfulness were also found to relate negatively with psychological distress, as expected, and positively with each other.

It was originally intended by the researcher in study 1 to extend exploration of these constructs to examining the possible predictive qualities of general self-efficacy and mindfulness on coping adaptiveness, and of coping adaptiveness on psychological

distress, as well as the possible mediating effect of coping adaptiveness in the observed relationships between general self-efficacy and mindfulness with psychological distress. However, the smaller than required number of participants, in terms of statistical power and having confidence in the generalisability of any results that may have been obtained, did not lend itself to such analysis. The potential of using multivariate statistics with inadequate sample sizes for leading to artificially inflated p values also rendered the use of such statistics inappropriate. In addition, the difficulties encountered in recruiting participants from a clinical population, as detailed in study 1, suggested that any further exploration of these constructs by the researcher within the time constraints of the present study would require recruiting participants from a nonclinical population. This would increase the chances of achieving a sample large enough to enable regression analysis. Such analysis may tell us more about the part played by coping adaptiveness in the predictive relationships between constructs.

The concept of psychological wellbeing was chosen as an outcome in study 2 rather than psychological distress, due to the nonclinical nature of the participants, and the greater interest in this part of the study in aspects of positive psychological wellbeing, rather than the absence of symptoms of psychological distress.

24. MEASURES OF PSYCHOLOGICAL WELLBEING

Various instruments have been developed that reflect the conceptual starting points to psychological wellbeing, as described in the Introduction section above. Some have

been designed to specifically measure individual cognitive evaluative aspects (e.g. Satisfaction With Life Scale; Diener *et al.*, 1985), or the affective, emotional aspects of wellbeing (e.g. PANAS; Watson *et al.*, 1988). Others attempt to cover all aspects or dimensions of wellbeing theorized to represent optimal psychological functioning, such as the Psychological Wellbeing Questionnaire (e.g. Ryff, 1989; Ryff & Keyes, 1995; & Singer, 1998), with sub-scales for autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

However, some scales have been questioned with regard to their usefulness for measuring wellbeing, on the basis of including items related to mental illness as well as mental health, or for including items that measure negative affect as well as positive affect (Tennant *et al.*, 2007). The view that wellness may not simply be the absence of psychopathology (e.g. Cowen, 1991), suggests it may be wise to bear these potential psychometric shortcomings in mind, when attempting to measure psychological wellbeing.

Given the possible usefulness of both the hedonic and the eudaimonic perspectives for understanding the concept of psychological wellbeing, as acknowledged by e.g., Ryan and Deci (2001; Tennant *et al.*, 2007), an instrument that aims to capture aspects of both perspectives may be a helpful addition to research in this domain. One such instrument is the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant, *et al.*, 2007). This scale also addresses the issue, referred to above, in relation to focusing only on the positive in the scale construction. As the chosen outcome measure for psychological

wellbeing in the second part of the present study, more details in relation to the reliability and validity of the WEMWBS will follow in the Method section of study 2.

25. RATIONALE FOR AND THE AIM OF STUDY 2

As stated in the first part of this study, growing evidence in psychological research points to the likelihood that being able to appropriately match coping responses to the nature of a stressful event, is likely to lead to increased individual wellbeing.

Theoretically predicted positive associations found between general self-efficacy and mindfulness in relation to coping adaptiveness, using a clinical sample in the first part of this study, indicated the possible role played by these two constructs, in predicting this kind of flexibility. Negative relationships were also found between these constructs and psychological distress, suggesting their potential usefulness in the therapeutic arena.

The aim of this part of the study, therefore, is to explore whether possible predictive relationships between general self-efficacy and psychological wellbeing and between mindfulness and psychological wellbeing, are mediated by coping adaptiveness, in an adult nonclinical convenience sample consisting of undergraduate students and associates of the researcher.

26. HYPOTHESIS

The Hypothesis is:

Coping adaptiveness will mediate the predictive relationships between general self-efficacy and mindfulness with psychological wellbeing.

METHOD

27. DESIGN

A cross sectional design was used. Standardized self-report questionnaires were used to measure the mediator (coping adaptiveness), the two independent variables (general self-efficacy and mindfulness), and the dependent variable (psychological wellbeing), this is the best method for exploring the predictive effects between these factors.

28. SAMPLE SIZE CALCULATION

Previous research findings (including those of the first part of the present study) that have used these or similar constructs, or a similar design, lead to the expectation that moderate to large associations will be found in the present study. For example, in the first part of the present study, the researcher found the large effects of $r = .57$ in the relationship between coping adaptiveness and general self-efficacy, and of $r = .53$ in the relationship between coping adaptiveness and mindfulness. Also, Brown and Ryan (2003) reported the moderate effect of $r = -.39$ in the relationship between mindfulness and life satisfaction, and Kohn *et al.* (2003) found the large effect of $r = -.61$ in the negative relationship between coping adaptiveness, as measured by the PFI, and perceived stress. Although theory suggests that strong relationships may be found between the constructs used in this study, to be conservative, the sample size is based on being able to detect moderate associations only.

The minimum number of participants required in this study to enable sufficient statistical power was 66. For a power of .8 and alpha of .05, to detect moderate associations between constructs, Green (1991) recommends the formula $N = 50 + 8M$ (where M is the number of independent variables) to determine the sample size. This formula is needed when using multiple regression analysis where you look at the relative predictive power of the independent variables. The formula $N = 104 + M$ is also recommended when testing individual predictors in a regression model. With two independent variables in this study (general self-efficacy and mindfulness), with psychological wellbeing the dependent variable, the number of participants required would be 106.

Fritz and MacKinnon (2007) also recommend certain minimum samples sizes required for mediation analysis in order to achieve power of .8. Calculations are based on the relative sizes of the paths between the independent variable and the mediator, and between the mediator and the dependent variable, and depend on whether they indicate a small (.14), half-way between small and medium (.26) medium (.39) or large (.59) effect. For simple mediation analysis using bias corrected bootstrap, as in the present study, a minimum sample of 115 and 116 for the analysis involving general self-efficacy and mindfulness, respectively, was indicated based on having 80% power to detect medium effects for paths *a* and *b*.

29. ETHICAL CONSIDERATIONS

Participation in this study involved the completion of a pack of questionnaires that measure the psychological constructs under consideration, by a nonclinical population. No participants who took part in Study 1, of which the present study is a minor adaptation, found their involvement upsetting or unsettling. However, in order to safeguard the participants in the present study from any potential threat to their wellbeing, by taking part in this study, ethical approval was sought from the local universities from where it was intended to recruit potential undergraduate participants. In addition, participants were asked to complete a consent form before taking part in the study (please refer to Appendix 2).

Although unlikely, having completed questionnaires that measure ability and beliefs in different domains, it was possible that participants would experience some distress. They may have wished for example to discuss their individual scores and what these implied about their current mental wellbeing status. As in Study 1, this possibility was addressed by giving participants contact numbers to receive support if needed by the researcher, or either one of the project supervisors, who are all skilled at working with distressed people and liaising with appropriate services. Participants were also advised that although there were no known risks to participation in this study that they should contact their GP if any concerns or issues come up.

Following the receipt of ethical approval (please refer to Appendix 1 for ethical approval

documents), recruitment of participants began. The second university also confirmed ethical approval upon receipt of a copy of this letter and a copy of the application for ethical approval submitted to the other university. No participants found their involvement in the study upsetting or unsettling.

30. MEASURES USED IN THIS STUDY TO COLLECT DATA

Please refer to the Method section in Study 1 for further details of the development, reliability and validity of measures that were also used in study 2 (the PFI, GSES and the MAAS).

30.1. Personal Functioning Inventory (PFI; Kohn et al., 2003)

As in Study 1, the PFI was used as a measure of coping adaptiveness. The PFI consists of 15 protrait and 15 antitrait items which make statements about individual styles of dealing with personal problems, and reflect principles believed to underly the ability to cope adaptively with life's stresses. Respondents are asked to indicate how much they agree with each item by choosing from a Likert scale running from 1-5, with 1 = Strongly Disagree, 2 = Disagree, 3 = Unsure, 4 = Agree, 5 = Strongly Agree. The 15 antitrait responses are subject to reverse scoring after completion by the participant. Examples of responses include '*When my rights are threatened I get too upset to act in the most effective way*', and '*Under pressure I tend to make hasty decisions*'. Higher scores on the PFI indicate greater coping adaptiveness. The minimum possible score is

30 and the maximum possible score is 150.

The significant findings by Kohn *et al.* (2003), in terms of internal consistency, construct, predictive and discriminant validity (as detailed on p.73), using non clinical samples, were sufficient to suggest its use in this part of the study, which also uses a nonclinical sample. The reliability alphas, for example, of .92 and .89 ($p < .01$), found by these authors using two separate adult non clinical samples, would be considered well above the acceptable level by, for example Henson (2001; Nunnally & Bernstein, 1994). The one factor solution found by Kohn *et al.* (2003), using four separate samples (see p.74 of Study 1), further indicates the appropriateness of this measure, for addressing the questions raised in this part of the study.

30.2. The General Self-efficacy Sub scale (GSES) from the Self-efficacy Scale (SES) (Sherer *et al.*, 1982)

As in study 1, the GSES was used as a measure of general self-efficacy. Respondents are asked to indicate how much they agree with a series of statements, using a 5 point Likert Scale ranging from A-E, with A = If you disagree strongly with this statement, B = If you disagree moderately with this statement, C = If you neither agree or disagree, D = If you agree moderately with the statement, and E = if you agree strongly with this statement. A to E responses are converted into 1- 5 for numerical scoring. Eleven items are reverse scored, with A - E responses converted to 5 - 1 for numerical scoring. For example, '*When trying to learn something new, I soon give up if I am not initially*

successful.' and *'When unexpected problems occur, I don't handle them well'.* High total scores represent high general self-efficacy expectations. The minimum possible score is 17 and the maximum possible score is 85.

Part of the rationale for choosing the GSES in the first part of this study, was due to its apparent greater use with clinical populations than other measures of general self-efficacy, such as those developed by Chen *et al.* (2001) or Schwarzer and Jerusalem (1995). As the second part of this study has recruited from a nonclinical sample, one of these alternative measures may have been, at least in this respect, as suitable for measuring general self-efficacy. However, as the GSES has also been found to be a reliable and valid measure using non clinical samples as well as clinical samples (e.g. Sherer *et al.* 1982), it was considered suitable for the purposes of study 2. In addition, use of this construct in the second part of the present study was intended to further investigate relationships found between it and coping adaptiveness, in the first part of this study. Therefore, using an alternative measure with a potentially different factor structure, may have led to misleading results.

30.3. Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003)

As in Study 1, the MAAS was used as a measure of mindfulness. The MAAS is a 15 item instrument that measures people's tendency to be mindful of moment to moment experience. Respondents are asked to indicate how frequently they have the experience described in each of the statements, using a six point Likert scale from 1 (almost always)

to 6 (almost never). For example, *'I find myself doing things without paying attention'*, and *'I find it difficult to stay focused on what's happening in the present'*. High scores on the MAAS reflect higher levels of mindfulness. The minimum possible score is 15 and the maximum possible score is 90.

Much of the reliability and validity testing of this measure has been conducted on nonclinical student and adult samples (see p.86 in study I for further details), suggesting its appropriate use in the second part of the present study.

As in Study 1, the self-regulatory aspects of mindfulness inherent in the MAAS, compared with alternative mindfulness measures, suggested its superiority for answering the questions raised in Study 2. As with the GSES, using the same measure to further explore relationships found in Study 1 between this construct and coping adaptiveness, was considered necessary to avoid potentially conflicting results.

30.4. The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; Tennant *et al.*, 2007).

The WEMWBS was used to measure psychological wellbeing. The WEMWBS is a 14 item instrument which measures subjective wellbeing and psychological functioning. All items are worded positively and address different aspects of psychological wellbeing. For example, *'I've been feeling optimistic about the future'*, and *'I've been feeling good about myself'*. Respondents are asked to indicate what best describes their experience of

these statements over the last two weeks, using a 5 point Likert scale from 1(none of the time) to 5 (all of the time). Higher scores on the WEMWBS indicate higher levels of mental wellbeing. The minimum possible score is 14 and the maximum possible score is 70. The scale has not been designed to identify individuals who are exceptionally high or low in positive mental health. Therefore, no "cut-off" has been developed (Brown & Janmohamed, 2008).

30.4.1. Development of the WEMWBS

The WEMWBS was developed by researchers at the University of Warwick and the University of Edinburgh, to measure mental wellbeing in adults in the UK (Stewart-Brown & Janmohamed, 2008). It derives from a pre-existing measure developed in New Zealand called the Affectometer 2 (Kammann & Flett, 1983), the first UK validation of which found it to be longer than it needed it to be, that it was subject to 'desirable responding' (Tennant *et al.*, 2006; Tennant *et al.*, 2007), and that it was considered predominantly as an instrument that measured mental illness rather than mental wellbeing (Tennant *et al.*, 2006). These findings led to the research team using some of the items from the Affectometer 2 and creating others with reference to current literature on positive mental health, to make the current 14 item scale. The final scale items cover both hedonic and eudaimonic aspects of wellbeing, including positive affect (i.e. feelings of optimism, cheerfulness and relaxation), satisfying interpersonal relationships and positive functioning, such as energy, clear thinking, self-acceptance, personal development, competence and autonomy (Tennant *et al.*, 2007).

30.4.2. Reliability and Validity of the WEMWBS

Initial reliability and validation of the WEMWBS has been undertaken by its original researchers, using participants aged 16 and above from student and general population samples.

30.4.3. Internal Consistency and Face Validity of the WEMWBS

Internal consistency of the WEMWBS was demonstrated by Tennant *et al.* (2007) with Cronbach's α of .89 ($N = 348$, undergraduate students) and .91 ($N = 1749$, population sample), suggesting that the items in the WEMWBS are highly correlated and focused on mental wellbeing. According to Nunnally (1978) a coefficient of 0.7-0.8 is ideal, and higher coefficients may suggest some degree of item redundancy. Further research has led to the development of a 7 item version of the WEMWBS (Stewart-Brown *et al.*, 2009). However, the 14 item version was chosen for the current study, in favour of the 7 item version, as the researcher considered it short, valid and reliable enough for its purposes. Its inclusion of both positive affect and eudaimonic aspects of wellbeing also increased its appeal, compared with the 7 item version, whose face validity, as described by Stewart-Brown *et al.* (2009), reflects mostly eudaimonic aspects of wellbeing and few hedonic aspects. The 14 item version was also reported to be unambiguous, clear, and not requiring any modifications, by focus groups selected from mental health workers and the general population to test its face validity and user friendliness (Brown & Janmohamed, 2008). These focus groups also recognised it as a measure of mental

health and not of mental illness.

30.4.4. Reliability

Preliminary test-retest reliability of the WEMWBS was suggested by Tennant *et al.* (2007) when they found $r = .83, p < 0.01$ ($N = 124$), after calculating the correlations between two sets of scores for undergraduate students over a period of one week. However, these authors concede that further test re-test reliability is required with general population samples, for example, and over longer periods of time. The WEMWBS has also been found by these authors to be 'not unduly susceptible to social desirability bias' (Tennant *et al.*, 2007, p.9), after its correlations with both the impression management and self-deception sub-scales of the Balanced Inventory of Desirable Response (BIDR; Paulhaus & Reid, 1991) were found to be similar or lower than other comparable scales, such as the Satisfaction With Life Scale (SWLS; Diener *et al.*, 1985) and the Affectometer 2 (Kammann & Flett, 1983), using an undergraduate student sample.

30.4.5. Construct Validity

Construct validity of the WEMWBS was demonstrated in the relationships found between it and other measures of positive affect and wellbeing by Tennant *et al.* (2007). For example, the WHO-5 Wellbeing Index (Bech, 2004), Satisfaction With Life Scale (Diener *et al.*, 1985), the Scale of Psychological Wellbeing (Ryff & Keyes, 1995), and the Positive and Negative Affect Scale (PANAS; Watson *et al.*, 1988) positive subscale

with $r = .77, p < 0.01$, $r = .73, p < 0.01$, $r = .74, p < 0.01$, and $r = .71, p < 0.01$, respectively. These findings further indicate that the WEMWBS measures both hedonic and eudaimonic aspects of mental wellbeing (Tennant *et al.*, 2007). The WEMWBS was also found to relate negatively to the negative subscale of the PANAS with $r = - 0.54, p < 0.01$.

Scores derived from factor analysis using student and general population samples who completed the WEMWBS, suggested a single underlying factor, which was interpreted to be mental wellbeing (Stewart-Brown & Janmohamed, 2008).

31. RECRUITMENT

An adult non clinical convenience sample was recruited for this study. Participants were drawn from undergraduate students attending local universities, as well as from associates of the researcher, using snowball sampling.

The researcher attended several lectures at two local universities in order to recruit potential undergraduate student participants. She gave a short talk on the subject of contemporary research at one of these lectures, as invited to do by the lecturer on that occasion, as this corresponded well with the lecture content which was on preparation for the students' own thesis projects, and was considered a possible motivating incentive to participate in the current research. At all lectures attended, the current researcher presented a brief outline of the present study, and then invited the students to participate,

by handing each a questionnaire pack.

In terms of the nonstudent participants, the researcher approached colleagues at her base to request that they each try to recruit some potential participants from their friends or relatives. Several colleagues agreed to do this, with guidelines from the researcher as to the procedure to follow, as detailed below. All other nonstudent participants from the general population were recruited by the researcher from friends, relatives and other associates.

31.1. Inclusion and Exclusion Criteria

To be included in this study, participants had to be aged 18 or over. There was no upper age limit. It was required that potential participants were not currently attending a psychologist, counsellor or other mental health professional for psychological difficulties. It was also required that participants were not themselves mental health professionals. Exclusion on this basis was that in terms of coping abilities, they may be considered untypical of the general population.

Participants were not excluded on the basis of gender, sexual orientation, physical disability, religion, beliefs, race or ethnic origin. As the questionnaires are normed for English speakers, and non-English speakers could invalidate the results, any non-English speakers were not invited to participate. Similarly, any potential participants who may have had a learning disability were excluded, as their disability may have affected their

understanding of questionnaire items.

32. PROCEDURE

Participation was entirely voluntary. Potential participants were asked to consider whether they would be interested in taking part in the study and to read the Participant Information Sheet (PIS) and Participant Consent Form (PCF), included in the questionnaire pack, to help inform their decision. (Please refer to Appendices 2 and 3 for copies of the PCF and the PIS, respectively.) The PIS described the purpose of this study and what participation in the study would involve. Confidentiality was assured. They were encouraged to take time to consider whether they had any further questions they wanted to ask about the study before agreeing to participate, and had the option of completing the questionnaire there and then, or to take further time to consider their decision. The PIS included details of a contact number for the researcher and her supervisors to ask any questions they may have had. A stamped addressed envelope was provided for the return of the completed PCF and questionnaire to the researcher. Alternatively, these could be returned to the researcher via the recruiter who gave them the Questionnaire Pack. PCF included items that explained that participation was entirely voluntary and that the participant could leave the study at any time and without explanation. Expected participation time was 15-20 minutes, and this was the extent of their involvement in the study. Participants were offered a chance to receive a summary of the main research results, by indicating their interest on the PCF. A total of 59, representing 34.1 % of the total number of participants who took part in the study,

indicated their interest in this.

33. ANALYTICAL PLAN

The statistical analysis planned for this part of the study included correlations and simple mediation analysis. Correlation analysis would indicate how much the variables used in this study are related. Mediation analysis would indicate the extent to which any observed predictive relationships between the independent variables (general self-efficacy and mindfulness), with the dependent variable (psychological wellbeing), are due to any observed predictive relationships between the independent variables and coping adaptiveness. A significant mediation effect would point further to the importance of coping adaptiveness to psychological wellbeing, than correlational analysis or linear regression analysis, alone or together, would do.

33.1 Mediation or Moderation?

It may be relevant at this stage to explain the distinction between mediated and moderated effects between variables, and why a mediated relationship rather than a moderated relationship is proposed in this study. A moderator is a third variable that affects the direction or strength of relationship between an independent variable and a dependent variable. Moderator variables specify when particular effects or relationships theoretically understood to exist, will hold or occur (Baron and Kenny, 1986). For example, the relationship between two variables may be moderated by gender, and appear significant or strong for women, but less so for men. A moderator

can alter the relationship, but does not need to be there for the relationship to exist. A mediator variable, on the other hand, helps to account for the effect or relationship between the independent and dependent variable. In other words, the strength of the relationship may become significantly reduced (or become non-existent in the case of full mediation) once the mediator is controlled for.

This study is more interested in the potential mediating role of coping adaptiveness in the proposed relationships between general self-efficacy and psychological wellbeing and between mindfulness and psychological wellbeing, rather than the ways in which the effects of general self-efficacy and mindfulness on psychological wellbeing may differ depending on the level or amount of coping adaptiveness. The latter question, although interesting, may be more applicable if the study was particularly interested in the concepts of general self-efficacy and mindfulness as possible prerequisites to wellbeing, than it is in the concept of coping adaptiveness in this respect. Also, as Baron and Kenny (1986) explain, 'moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable'. Therefore, if the current study was more interested in whether coping adaptiveness may alter or perhaps improve the relationships between general self-efficacy and mindfulness with psychological wellbeing, it would be proposed as a possible moderator. However the study is more interested in whether these relationships would be as strong or significant, as indicated in the literature, without the role played by coping adaptiveness. Further, although there could be a moderated effect, the above presented theoretical arguments and empirical evidence would suggest a mediated rather than a moderated

relationship.

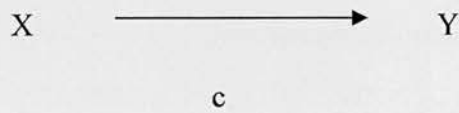
Although the moderated effect of a particular variable can tell us something about the predictive power of the independent variable, mediation tells us more about the underlying process or mechanisms that allow the dependent variable. Therefore in this study, coping adaptiveness is hypothesised as the mechanism through which general self-efficacy and mindfulness affect psychological wellbeing.

33.2 Simple Mediation Analysis

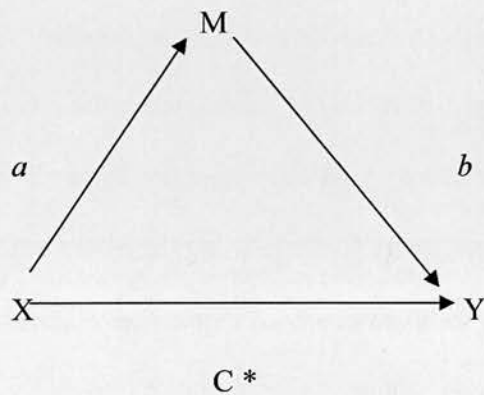
Mediation analysis involving only one mediator variable, as in the present study, is known as simple mediation analysis. In mediation analysis, as described by Baron and Kenny (1986; Hayes, 2009), for example, the initial variable X is said to cause the outcome variable Y , with the path between them called c (the total effect). This is known as the unmediated model (please see Figure 1). In the mediated model (please also see Figure 1) the effect of X on Y may be mediated by M , and path C^* is called the direct effect, because it is the part of the effect of X on Y that is independent of the pathway through M (Hayes, 2009). The effect of X on Y through M is known as the indirect effect.

Causality between the variables is assumed, in order to conduct mediation analysis. For example, in the present study, the mediator variable (coping adaptiveness) is presumed to cause the outcome (or dependent variable) variable (psychological wellbeing), and not

the other way around. However, it is acknowledged that this analysis does not infer *actual* causality between the variables, as different levels of psychological wellbeing may cause differences in either of the independent variables or the mediator variable.



Unmediated model



Mediated model

Figure 1: The unmediated model and the mediated model in mediation analysis.

33.3 Choice of Mediation Analysis for this Study

33.3.1. Causal Steps Approach to Mediation

In the causal steps approach to mediation (Baron & Kenny, 1986), complete mediation is

said to have occurred when variable X no longer affects variable Y after M has been controlled, and so path C^* is zero. Partial mediation is considered by these authors to be when the path from X to Y is reduced in absolute size but is still different from zero when the mediator is controlled. A series of analytical steps are followed to establish whether mediation or partial mediation is likely to have occurred.

Step 1 shows that the initial variable is correlated with the outcome variable. This step establishes that there is an effect that may be mediated. Step 2 shows that the initial variable is correlated with the mediator (a path). This step involves treating the mediator as if it were an outcome variable. Step 3 shows that the mediator affects the outcome variable (b path). It is not considered sufficient to just correlate the mediator with the outcome variable, as they may be related because they are both caused by the initial variable X. Therefore, X must be controlled in establishing the effect of the mediator on the outcome. Finally, Step 4 establishes to what extent the relationship C^* might be reduced by controlling for M (Kenny, 2009).

The amount of mediation (the indirect effect), is defined as the reduction of the effect of the initial variable on the outcome variable or $C-C^*$. Kenny (2009) recommends that the Sobel test, as described in Sobel (1982), is then used as a test of the strength of mediation. With this test, absolute values greater than the critical value of 1.96 are considered significant at the $p < .05$ level.

Although the causal steps approach has been widely used in mediation analysis, it has

been criticized, according to Hayes (2009), on multiple grounds. For example, it has been found to be among the lowest in power for methods used to test for intervening variable effects (Fritz & MacKinnon, 2007; MacKinnon *et al.*, 2002, as cited in Hayes, 2009), indicating that it is least likely to be able to detect an indirect effect. MacKinnon *et al.* (2002) and MacKinnon *et al.* (2004, both as cited in Preacher & Hayes, 2008), for example, suggested that the causal steps approach cannot be recommended except in large samples. A further criticism is that the inferred indirect effect is not based on tests of a quantification of that effect, (i.e. the product of its constituent paths ab , with a being the path between X and M and b being the path between M and Y (controlling for X). It is inferred rather, as Hayes (2009, p.410) explains, ‘from the outcome of a set of hypothesis tests ...’ (as described above), that is ‘...if a and b are both different from zero by a statistical significance criteria, then so too must be the indirect effect according to the logic of this approach’.

In summary, the Baron and Kenny approach infers the existence of a mediating effect if the direct effect (between X and Y) is no longer significant after controlling for the mediator (M), and requires significant relationships in the a and b paths, as well as between the independent variable (X) and the dependent variable (Y).

33.3.2 *Measuring the Indirect Effect*

Other researchers, (e.g. Preacher & Hayes, 2004), would concur with Baron and Kenny, for example, that evidence of a possible mediation effect requires there to have been a

significant total effect between the independent variable (X) and the dependent variable (Y). However, they also contend that the likelihood of a significant mediation or indirect effect is more appropriately tested by analysis or quantification of the indirect effect itself (ab) rather than making inferences from the observed relationships in the a and b paths. As Hayes (2009) explains, 'it is possible for an indirect effect to be different from zero even if one of its constituent paths is not.' For example, lack of significance in one or other of the a or b paths may be due to lack of power, especially in small samples, and may not therefore represent relationships found in the wider population, and could lead to a Type II error (Preacher & Hayes, 2004). These authors also highlight the distinction between mediation (which requires there to have been a total effect between X and Y initially), from an indirect effect (which can be significant even when there is no evidence of a significant total effect).

33.3.4. *The Bootstrapping Method*

The evidence outlined above suggests the potential superiority of the approach advocated by, for example, Preacher and Hayes (2004, 2008) and Hayes (2009). Therefore, a technique understood to detect significant mediation effects according to their criteria, was chosen for the mediation analysis in this study. This technique is known as bootstrapping.

The bootstrapping method, as Preacher and Hayes (2004, p.722) explain 'produces a test that is not based on large sample theory, meaning it can be applied to small samples with

more confidence' and 'the sampling distribution does not need to be normally distributed to show that the indirect effect is significantly different from zero'. It is also one of the alternative methods to mediation analysis considered to be more powerful than the Sobel test, which requires large samples and relies on the assumption of normality of the sampling distribution of the mediation effect, despite the observation by Bollen and Stine (1990; Stone & Sobel, 1990, as cited in Hayes, 2009, p.411) that 'the sampling distribution of ab tends to be asymmetric, with nonzero skewness and kurtosis'. The bootstrapping technique is also said to have better Type 1 error control (Hayes, 2009).

Bootstrapping (also known as the distribution of the product approach) involves repeatedly taking samples from the original data set and estimating the indirect effect in each re-sampled data set. Hayes (2009) recommends re-sampling from the original data set at least 5000 times, although only 1000 times is also often used. This variability gives 5000, for example, estimates of the indirect effect, which will coalesce around a central point. As Preacher and Hayes (2008, p. 880) explain, 'by repeating the process thousands of times, an empirical approximation of the sampling distribution of ab is built and used to construct confidence intervals for the indirect effect'. This involves sorting the estimates of ab from smallest to largest, and determining the lower and higher bounds of the confidence interval. For a 95% confidence interval for 1000 bootstrap samples, for example, the lower limit is the 25th score in this sorted distribution, and the higher limit is the 976th score, using the formula $k(.5 - ci / 200)$ to obtain the lower limit score, and $1 + k(.5 + ci / 200)$ to obtain the higher limit score

(Hayes, 2009). The endpoints can be adjusted to give a bias corrected or a bias corrected and accelerated confidence interval, and if zero is not between the lower and upper bound, there can be said to be a significant indirect effect with 95% confidence (Hayes, 2004).

34. STAGES OF ANALYSIS

The first stage of analysis involved checking the assumptions of the data, to see whether parametric statistical analysis was appropriate. This included visually inspecting the data for possible outliers, missing data and data entry errors, checking the means and standard deviations, checking that the data is normally distributed, and checking for skewness and kurtosis. The assumptions of the data were further checked to see whether multiple regression analysis was appropriate. This included checking for multicollinearity, independent errors, normality of residuals, linearity, and homoscedacity.

The second stage of analysis was correlation analysis to determine the extent to which the constructs used in the study are related. Finally, the third stage of analysis was mediation analysis to explore the extent to which the two predictor variables may be mediated by coping adaptiveness in their respective predictive relationships with psychological wellbeing.

RESULTS

35. PARTICIPANTS

Out of 421 questionnaire packs prepared for possible distribution to potential participants, recruitment opportunities led to only 334 of these being distributed either by the researcher or other recruiters, as described above. A total of 173 questionnaires were returned to the researcher, representing a 51.8 % response rate. Initial inspection of questionnaires and consent forms led to 10 participants being excluded from the study due to either incomplete or unsigned consent forms, or there being at least one measure in the questionnaire pack not having been attempted. A further four outlier cases were removed (as explained below), leaving a total of 159 participants in the final sample. The sample consisted of 50 psychology undergraduates, 60 business and management undergraduates, and 49 associates of the researcher. Of these participants, 41 were male (25.79 %) and 118 (74.21 %) were female. The mean age of male participants was 31.39 (SD 13.55), ranging from 19 to 75, and the mean age of female participants was 29.74 (SD 15.31), ranging from 18 to 73 (based on 116 out of the total female sample who gave details of their age).

36. STAGE 1

Total scores for each of the measures used in this study were calculated using SPSS.

36.1. Checking Assumptions

36.1.1. *Parametric Statistics*

As in Study 1, the first step was to ensure that the nature and distribution of the data presented no obstacles to using parametric statistics.

Initial inspection revealed no data entry errors, but did bring to light the occurrence of some missing data in 16 cases. Missing data analysis using SPSS, however, indicated that no case had more than 5% of their data missing, considered by Chavance (2004) to indicate the appropriateness of retaining such cases, and all 16 were, therefore, included in further analysis. As SPSS on-line help (version 17) suggests that all cases should be complete (i.e. have no missing data), in order to avoid any potentially misleading results, it was decided to replace missing values using mean imputation on SPSS. Totals for each measure were then recalculated using SPSS.

36.1.2. *Descriptive Statistics*

Visual inspection of histograms and analysis of skewness and kurtosis, suggested that all variables were normally distributed except the GSES, with $z = -2.95$ and 2.26 for skewness and kurtosis, respectively ($p < .05$.) Inspection of a boxplot for GSES revealed 4 cases lying out with the 25th percentile for this variable. Further analysis of skewness and kurtosis after removing these outliers and recalculating totals for each

measure, suggested that all variables were now normally distributed with the successful reduction of the negative skew for the GSES to $z = -0.49$, and altering the kurtosis to $z = -0.51$, ($p = .20$, not significant). It was decided therefore, to remove these cases from the data, leaving a total of 159 cases.

Table 5 below shows a summary of total mean scores for each of the measures. The mean score for the PFI (101.68, SD 14.82), although quite low compared with the total possible score of 150, is comparable with the total mean scores reported by Kohn *et al.* (2003) in the development of this measure (e.g. 101.59 (SD 17.85, $N = 105$) and 101.71, (SD 13.60, $N = 140$) using analogue samples. It is also considerably higher than the total mean score reported in the first part of this study (89.81, SD 17.79, $N = 37$) using a clinical sample

The total mean score for the GSES (62.39, SD 10.19) is higher than the total mean score reported for this measure in Study 1 (55.19, SD 13.55) using a clinical sample, but is still considerably lower than the total possible score for this measure (85). However, it is similar to other reported total mean scores using nonclinical samples, (e.g. Sherer & Adams, 1983) with a mean score of 64.31 (SD 8.5, $N = 101$) and Scherbaum *et al.* (2006) with 64.19 (SD 10.61, $N = 606$).

As with the PFI and GSES, the total mean score for the MAAS (58.91, SD 12.21) in this part of the study is higher than the total mean score reported for the clinical population in study 1 (53.95, SD 14.42), but not dramatically so. It also appears a little low

compared with 60.96 (SD 15.07, $N = 98$), found by Schmertz (2008) using a clinical sample, and Jermann *et al.* (2009), who found a mean of 63.96 (SD 10.29, $N = 190$) using a nonclinical adult sample. The total mean score is also relatively low compared with the total possible score on this measure of 90.

The total mean score for the WEMWBS (48.76, SD 7.92) appears low compared with the total possible score of 70, and is slightly lower than the mean reported by Tennant *et al.* (2006), for example, for a student sample (49.66, SD 7.58, $N = 348$). The median for the WEMWBS in the current study (49) is also slightly lower than that reported by Tennant *et al.* (2007) for a population sample (51, $N = 1749$).

Table 5: Total mean scores for measures used in this study. PFI = Personal Functioning Inventory, GSES = General Self-efficacy Sub-scale, MAAS = Mindful Attention Awareness Scale, WEMWBS = Warwick-Edinburgh Mental Well-being Scale.

	Mean	SD	N
PFI	101.68	14.82	159
GSES	62.39	10.19	159
MAAS	58.91	12.21	159
WEMWBS	48.76	7.92	159

Having established that parametric statistics were appropriate for the analysis of the data, a series of scatter plots were conducted to visually check whether a linear relationship was observable between the variables, which would suggest that correlational and regression analyses are appropriate statistical tools. Each of the scatter plots indicated linear relationships.

37. STAGE 2

37.1. Correlational Analysis

A series of 2-tailed Pearson correlations was conducted on the data, in order to explore the strength of associations between variables in this part of this study, and to inform whether the multiple regression assumption of collinearity was met (please refer to the more detailed section on these assumptions below). Table 6 shows the results of this correlational analysis.

Table 6: Results from correlational analysis of the relationships between variables.

	PFI <i>N</i> = 159	GSES <i>N</i> = 159	MAAS <i>N</i> = 159	WEMWBS <i>N</i> = 159
PFI	1.00			
GSES	.68**	1.00		
MAAS	.48**	.38**	1.00	
WEMWBS	.57**	.46**	.32**	1.00

***p* < .01

37.1.2. Correlations between Variables

Highly significant positive associations were found between general self-efficacy and coping adaptiveness, and between mindfulness and coping adaptiveness, with *r* = .68 and .48, respectively (both *p* < .01). Significant positive associations were also found between these variables and psychological wellbeing, with *r* = .57, .46 and .32 (all *p* < .01) for coping adaptiveness, general self-efficacy and mindfulness, respectively.

Finally, a significant positive association was found between general self-efficacy and mindfulness, with $r = .38, p < .01$.

37.2. Internal Consistency

Results of internal consistency analysis, suggested the reliability of each measure used in this study with Cronbach's $\alpha = .87, .86, .87$ and $.9$ for the PFI, GSES, MAAS and WEMWBS, respectively.

39. STAGE 3

38.1. Mediation Analysis

38.1.1. *Checking Assumptions Required for Multiple Regression Analysis*

Linear multiple regressions were conducted using SPSS with (a) coping adaptiveness as the dependent variable and (b) psychological wellbeing as the dependent variable, in order to evaluate the assumptions required for this type of analysis. To meet the assumption of no multicollinearity, the predictor variables should not correlate any higher than $r = .9$. This indicates that they are measuring different things (Field, 2009). As general self-efficacy and mindfulness were the two predictor variables in the current study, this assumption was met with $r = .38, p < .01$, and confirmed by a VIF statistic of 1.17. The assumption of independent errors was met with the Durban-Watson test statistic 2.14, with coping adaptiveness as the dependent variable, and of 1.99, with

psychological wellbeing as the dependent variable. Each of these represent an acceptable value with which to infer that there were no correlations between adjacent residuals (Durban & Watson, 1951; Field, 2009; Savin & White, 1977). Further assumptions in multiple regression analysis are that there should be linearity and homoscedacity. Linearity indicates that the mean values of the outcome variable for each increment of the predictors lie along a straight line, and if there is homoscedacity, it means that the residuals at each level of the predictor variables do not have different variances (Field, 2009). Inspection of scatter plots indicated that these assumptions were met due to no observable curve in the display of dots representing the data (linearity), and the dots appearing to be evenly dispersed around zero (homoscedacity). Visual inspection of a histogram and P-P plot used to test for normal distribution of the residuals indicated that this assumption was also met.

K.J. Preacher (personal communication, July, 2011) suggests that the standard assumptions used for multiple regression, as reported above, can be relaxed for the bootstrapping part of mediation analysis, but that it is wise to check whether the residuals of the a and b paths are normally distributed. Visual inspection of histograms and P-P Plots suggested that this assumption was also met.

38.1.2. *Mediation Analysis using Bootstrapping Macro*

SPSS was used to run the Preacher and Hayes (2008) macro for bootstrapping mediation analysis. A macro is a downloadable program that will run when a short cut command

is given to execute it. The output of this macro provides results of regression analysis that the causal steps approach (Baron & Kenny, 1986) would also provide, as well as the results of the bootstrapping analysis. Please refer to Tables 7 (a) and 7 (b) for results of this analysis.

38.1.3. Mediation Effects of Coping Adaptiveness

38.1.3.1. General Self-efficacy

The results of the mediation analysis suggest a significant indirect effect of coping adaptiveness in the predictive relationship between general self-efficacy and psychological wellbeing. This indirect effect of X on Y through M (ab) is considered to be greater than zero and to lie between .162 and .357, with 95% bias corrected confidence based on 5000 bootstrap samples, with a point estimate of .257. The path from X to M (a) = .995, $p < .0001$, and the path from M to Y, controlling for X (b) = .259, $p < .0001$. The significant total effect of general self-efficacy on psychological wellbeing with $B = .355$, $p < .0001$, indicates that there was an effect between these two variables to begin with, which allows the result of the bootstrap analysis to be interpreted as mediation, and not just an indirect effect. Results of the regression analysis also indicate that coping adaptiveness partially mediates the relationship between general self-efficacy and psychological wellbeing, with the reduction in size and loss of significance in this relationship with $B = .097$, $p = .16$, not significant. Please refer to Figure 2 which illustrates this mediation effect. Overall, this model predicts substantial and highly significant variance in psychological wellbeing with

$R^2 = .325$, $F(2, 156) = 38.99$, $p < .0001$.

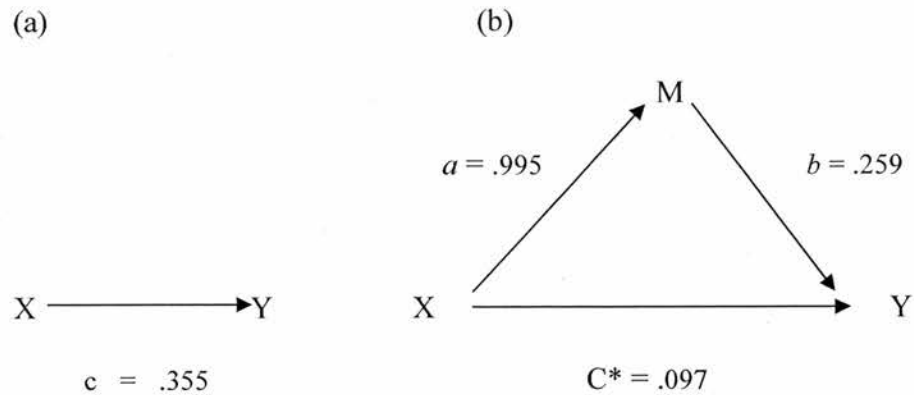


Figure 2: (a) The total effect of general self-efficacy on psychological wellbeing.
 (b) The indirect relationship between general self-efficacy and psychological wellbeing, as mediated by coping adaptiveness.

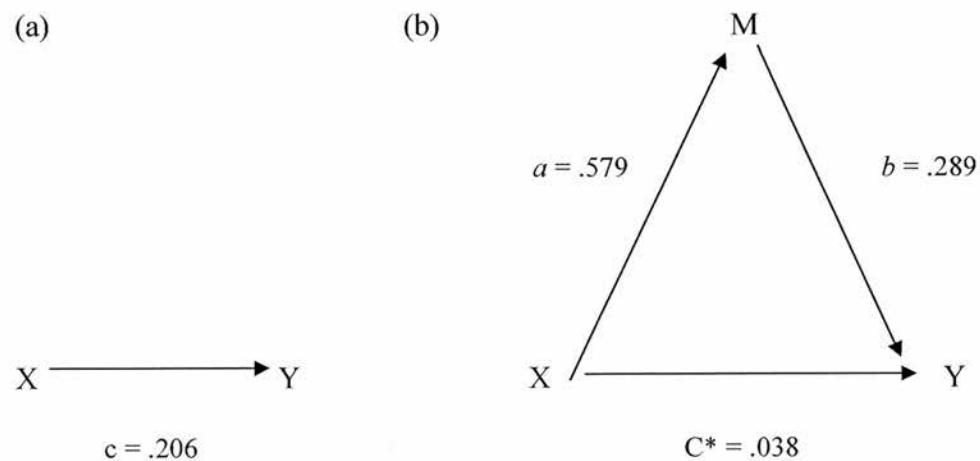


Figure 3: (a) The total effect of mindfulness on psychological wellbeing.
 (b) The indirect effect between mindfulness and psychological wellbeing, as mediated by coping adaptiveness.

38.1.3.2. *Mindfulness*

A significant indirect effect of coping adaptiveness in the predictive relationship between mindfulness and psychological wellbeing, is also inferred from the mediation analysis, with this effect (ab) considered to lie between .098 and .251, with 95% bias corrected confidence based on 5000 bootstrap samples, with a point estimate of .168. The path from X to M (a) = .579, $p < .0001$, and the path from M to Y, controlling for X (b) = .289, $p < .0001$. The significant total effect of $B = .206$, $p < .0001$, in the predictive relationship between mindfulness and psychological wellbeing, allows the indirect effect found here, to also be interpreted as mediation. Results of the regression analysis also indicate that coping adaptiveness partially mediates the relationship between mindfulness and psychological wellbeing, with the reduction in size and loss of significance in this relationship with $B = .038$, $p = .43$, not significant. Please refer to Figure 3 which illustrates this mediation effect. Results also indicate that this model predicts substantial and highly significant variance in psychological wellbeing with $R^2 = .319$, $F(2, 156) = .003$, $p < .0001$.

Table 7 (a): The results of the regression part of the bootstrap mediation analysis, using 5000 re-samples ($N = 159$), and a 95% bias corrected confidence interval, with general self-efficacy and mindfulness as the independent variables, coping adaptiveness as the mediator, and psychological wellbeing as the dependent variable. GSES = general self-efficacy, MAAS = mindfulness, a = the path between X and M, b = the path between M and Y controlling for X, c = the total effect of X on Y, and C^* = the direct effect of X on Y. IV = independent variable. Unstandardised Beta values are shown.

(a)

Regression						
IV	Beta (B)	s.e.	t	p	R^2	F
GSES					.325	38.989**
MAAS					.319	38.003**
GSES a	.995**	.08	11.77			
GSES b	.259**	.05	5.39			
GSES c	.355**	.05	6.43			
GSES C^*	.097	.07	1.39	.16		
MAAS a	.579**	.08	6.81			
MAAS b	.289**	.04	7.25			
MAAS c	.206**	.05	4.19			
MAAS C^*	.038	.05	.79	.43		

**indicates $p < .0001$

Table 7 (b): The results of the bootstrap part of the bootstrap mediation analysis. Mean = the mean of the sampling distribution of the indirect effect (ab), BCa 95% CI = bias corrected and accelerated 95% confidence interval.

(b)

Bootstrap				
IV	Mean (ab)	s.e.	BCa 95% CI	
			Lower	Upper
GSES	.257	.05	.162	.357
MAAS	.168	.04	.098	.251

DISCUSSION

The aim of this part of the study was to explore whether coping adaptiveness mediates the expected relationships between general self-efficacy and psychological wellbeing, and between mindfulness and psychological wellbeing. The study investigated this theoretically predicted mediation, using an adult nonclinical sample. The results of study 2 and methodological issues will now be discussed, followed by reference to theoretical and clinical issues in the General Discussion section.

39. SUMMARY OF RESULTS

39.1. Reliability of Measures used in this Study

The results of internal consistency analysis for the PFI, GSES, MAAS and WEMWBS strongly indicate that results found using these measures can be considered reliable.

39.2. General Self-efficacy and Coping Adaptiveness

The positive and significant relationship found between general self-efficacy and coping adaptiveness, was as expected, given the strong positive relationship found between these two constructs in study 1. This finding adds further evidence of the possible importance of general self-efficacy in allowing the ability to cope flexibly in accordance with the specific nature or controllability of a stressful situation. It also adds to prior research findings that indicate that higher levels of self-efficacious beliefs in individuals

are likely to be helpful in coping with stress (e.g. Jerusalem & Schwarzer, 1992), as referred to in study 1.

39.3. General Self-efficacy and Psychological Wellbeing

As also expected, a significant positive relationship was found between general self-efficacy and psychological wellbeing. This finding further suggests the significant part played by individual belief in abilities to overcome obstacles, for example, in order to achieve or maintain wellbeing, as evidenced in much prior research in this domain (e.g. Charrow, 2006; Hampton, 2000; Luszczynska *et al.*, 2005).

39.4. Mindfulness and Coping Adaptiveness

The significant positive relationship found between mindfulness and coping adaptiveness, was also as expected in the current study, given the strong association found between these two constructs in study 1. This finding is further indication of the possible role mindful awareness may have in coping adaptively with stress. As in study 1, the self-regulatory aspects of mindfulness may be particularly implicated, given that the MAAS was specifically developed to investigate these.

39.5. Mindfulness and Psychological Wellbeing

The relationship between mindfulness and psychological wellbeing was also found to be

significant and positive. The strength of this relationship is slightly less than that found in study 1 between mindfulness and psychological distress with. This difference is interesting in light of the dual continuum model of wellbeing, and perhaps can be interpreted as possible further evidence for psychological wellbeing and psychological distress being two separate constructs, as suggested by for example, Keyes (2005; Huppert & Whittington, 2003). Nevertheless, the significant association here provides further support for the importance of being mindful for psychological wellbeing.

39.6. Coping Adaptiveness and Psychological Wellbeing

The finding that coping adaptiveness is significantly and positively related to psychological wellbeing was also as expected in this part of the study. The effect size is almost identical to that found in study 1 between coping adaptiveness and psychological distress. This similarity also raises questions regarding the possible dual nature of these constructs, and would seem to indicate that perhaps they are after all on one continuum. However, the strength and significance of the relationship in each instance, provides convincing evidence of the possible role played by appropriate matching of coping response to stressful situations for staying psychologically well.

39.7. Mediating Effects of Coping Adaptiveness

The correlational analysis reported above, was the first necessary step to establish whether there may be a direct effect between general self-efficacy and mindfulness on

psychological wellbeing that may be mediated by coping adaptiveness. The results of mediation analysis were then shown to be as hypothesised in this part of the study for both general self-efficacy and mindfulness.

The finding that both these constructs are partially mediated by coping adaptiveness in their respective relationships with psychological wellbeing is also indicated by the reduction in size and the loss of significance of the relationships between these two constructs and psychological wellbeing, when coping adaptiveness is controlled for.

These findings further indicate the importance of coping adaptiveness in relation to psychological wellbeing. They suggest that whatever it is about general self-efficacy and mindfulness that may lead to greater psychological wellbeing, their predictive qualities may be partly due to the coping adaptiveness or flexibility that they allow.

39.8 Mediation or Moderation?

As outlined above, a mediated rather than a moderated effect of coping adaptiveness was hypothesised in this study. Therefore statistical analysis specific to testing a possible moderated effect, such as testing the interactive effect of general self-efficacy or mindfulness with coping adaptiveness on psychological wellbeing, was not carried out. Such analysis may, in any case, have been contra-indicated by the findings that coping adaptiveness is correlated with both of the independent (predictor) variables and the independent variable in this study, inferred by Baron and Kenny (1986, p. 1174) to

possibly preclude a 'clearly interpretable interaction term'.

40. METHODOLOGICAL ISSUES

Self-report methodology is limited regarding the extent to which results can indicate how someone would actually respond in any given stressful situation. In answer to criticism by Coyne and Racioppo (2000), for example, it is acknowledged that a within individual daily process design may give more precise indication of how people may cope across situations. Such detail may be more helpful in terms of understanding more about the processes involved in coping, in order to bridge the observed gap (e.g. Coyne & Racioppo, 2000) between research and clinical practice. Nevertheless, the results here add to the growing evidence base that implies that greater wellbeing may be achieved with less rigid or automatic, and more flexible coping responses.

Use of a nonclinical sample, in a study that was initially interested in testing relationships between constructs in the clinical realm, became a necessary methodological requirement. However, it is still possible to draw inferences from the relationships found using the nonclinical sample regarding the possible application of findings in the clinical arena. Use of the larger nonclinical sample made it possible, for example, to have greater confidence in the significance of results found using the smaller clinical sample. It also allowed use of mediation analysis which further indicated the importance of coping adaptiveness, the main construct under consideration in this study.

Although it is necessary in mediation analysis to make the assumption that the independent variables cause the dependent variable, actual causality cannot be inferred. Nevertheless, the results of the current study may be considered an initial step in exploring the mediation effects of coping adaptiveness, to which future studies may wish to apply other types of mediation analysis such as structural equation modelling. This form of analysis may tell us more about which latent factors within the constructs may be particularly predictive of coping adaptiveness, and which may or may not be mediated by coping adaptiveness. However, structural equation modelling was considered a step beyond the constraints of the present study.

GENERAL DISCUSSION

Theoretical and clinical issues in relation to results from both studies in this thesis will now follow.

41. THEORETICAL IMPLICATIONS

41.1. Coping Adaptiveness

The overall results of this thesis suggest that coping adaptiveness is a significant factor in relation to psychological distress and psychological wellbeing. Its importance is further implicated by the results of mediation analysis in study 2 which showed a mediation effect of coping adaptiveness in the relationships between general self-efficacy and mindfulness with psychological wellbeing. Given the theoretical conceptual distinctiveness between psychological distress and psychological wellbeing, the mediating effect of coping adaptiveness in relation to psychological distress, cannot be assumed. However, future research into the interrelations between these constructs in clinical samples may provide further evidence of this mediation effect.

The mediation effect found here adds to the theoretical evidence base that suggests appropriate flexibility of response may be more important to wellbeing than other more stable psychological constructs such as personality or beliefs, for example. Of course, future research may find that coping adaptiveness does not mediate relationships between all such constructs and psychological wellbeing. However, its significant role,

as shown here, deserves further consideration in research, including further exploration of psychological mechanisms that may allow it.

The fluidity of events referred to by Lazarus (1999) intuitively requires us to consider what may be the appropriate response, with each change in situational circumstance. As theory suggests, choosing to respond or not to respond to events in a particular way, can confer differences in individual wellbeing. Results in this study, therefore, imply the importance of coping adaptiveness to effectively managing such changing contingencies. Findings here may also help us to understand what it is that allowed teenagers in Smith's (2005) qualitative study to cope with traumatic events in their lives without the help of mental health services. Their apparent sense of when it was more and less helpful for them to talk about their experiences, for example, may represent the appropriate flexibility inherent in coping adaptiveness. Future research may also usefully employ further qualitative studies to determine whether aspects of coping adaptiveness are revealed in individual accounts of such apparently successful coping attempts.

41.2. General Self-efficacy and Mindfulness

The possible relationship between general self-efficacy and mindfulness was not hypothesised in the present study. However, the positive associations found between these two constructs in both studies, is theoretically interesting. Although they are understood to measure different psychological phenomena, they may share some aspects that enable the type of self-directed action involved in coping adaptiveness, and which

may also be important to psychological wellbeing. As well as persistence, self-efficacious beliefs are also thought to be important in terms of self-regulation and enabling individuals to 'guide their own behaviour in the pursuit of their goals' (Maddux & Gosselin, 2005, p.225). This type of self-regulation or control is thought to derive from the belief that one has the ability to exercise such control over one's own thoughts, emotions, and behaviour, based on previous past successful performance in doing so. As these authors further state, 'when behaviours, thoughts, and emotions seem within their control, people are better able to meet life's challenges, build healthy relationships, and achieve personal satisfaction and peace of mind' (Maddux & Gosselin, 2005, p.227). As outlined above, it is possible that mindfulness contributes to a sense of control, through the greater awareness of moment to moment external and internal stimuli, and that this may allow conscious and flexible, as opposed to automatic response to events. However, it could be that general self-efficacy may also allow a sense of control over the way in which an individual responds to stressful events, through a belief in ability to control aspects of their response appropriately in accordance with the nature of the event. To the current researcher's knowledge, no previous studies have so far investigated a possible direct link between these two psychological constructs. However, future research, perhaps using structural equation modelling, as referred to above, may add to our theoretical understanding of the specific factors they may have in common.

41.3. Mindfulness, Self-Control and Attention to Self

As outlined above in the main Introduction section, Kohn *et al.* (2003) considered self-control to be a possible pre-requisite for coping adaptively with life's stresses. Intuitively this hypothesis makes sense, considering the flexibility rather than automaticity that might be required to cope with different forms of stressful situations. However, research in relation to self-focused attention may suggest that self-control would not necessarily be the most helpful mechanism in the process of coping adaptively. As Shapiro and Schwartz (1999, p.128) for example, point out, 'all self-regulation techniques ...involve the cultivation of attention'. Different forms of self-attention have been identified, such as analytical and experiential (e.g. Watkins & Teasdale, 2004), which have potentially different effects on wellbeing. Analytical refers to the often unhelpful forms of self-focused attention such as rumination that can be found in depression, for example. Experiential self-focused attention on the other hand, as practiced in mindfulness for example, can help disengage individuals from this form of maladaptive self-preoccupation. In turn this can reduce the risk of relapse of psychological problems such as depression (Watkins & Teasdale, 2004).

Experiential self-focused attention therefore, may enable greater self-control in this respect. However, other research suggests the importance of knowing when to relinquish self-control, a concept referred to as hypo-egoic self-regulation (e.g. Leary *et al.*, 2006). This concept recognises the sometimes maladaptive nature of too much self-control. Using too much self-control can preclude the automatic spontaneity

sometimes necessary to achieve the most effective response, or subjectively enjoyable experience, as noted for example by Leary *et al.* (2006) in the experience of flow (Csikszentmihalyi, 1990) or deindividuation (e.g. Diener, 1979) or transcendence (e.g. Horgan, 2003). In terms of psychological wellbeing, too much effort to control or suppress thoughts and memories of a stressful or traumatic event for example, have been found to increase the frequency and re-occurrence of such thoughts (e.g. Tolin *et al.*, 2002). Therefore, perhaps adaptive coping also requires flexibility in the use of self-control, thus allowing it to be relinquished when a spontaneous and less considered response may best fit the situation.

If, as discussed above, flexibility in coping is not consciously determined, suggested by the lack of associations in study 1 between discriminative facility and coping adaptiveness, it could be that conscious self-control is not as important as Kohn and his colleagues have suggested. This would still leave the question of what would enable the spontaneity, and by which mechanism an individual knows they can rely on this response to fit with the particular demands of the situation. However, it could be that being mindfully self-aware may enable an individual to discern when to abandon effortful control over their own responses. If so, although future development of a scale to specifically measure self-control, as suggested by Kohn *et al.* (e.g. 1996), may throw light on its usefulness as a predictor of coping adaptiveness, perhaps mindfulness, as used in the present study, for example, may be the better predictor of this ability.

42. CLINICAL IMPLICATIONS

42.1. Coping Adaptiveness

As Folkman and Moskowitz (2004, p.745) suggest, the allure of coping 'is not only as an explanatory concept regarding variability in response to stress, but also as a portal for interventions'. As such, the potential usefulness of coping adaptiveness in the therapeutic arena is suggested by the results of this study. It may be a particularly helpful psychological resource to develop for patients who tend to stick rigidly to maladaptive coping responses, for example. In addition, the PFI may be useful to measure individual pre and post treatment ability in coping adaptiveness, alongside measures of psychological distress or wellbeing. This approach potentially may provide convincing evidence for patients of the efficacy of this type of flexibility toward their wellbeing, and thus encourage them to try to maintain it. Analysis of such comparisons may also provide evidence for clinicians of the clinical effectiveness of this type of coping, with which to inform future research and clinical practice.

42.1.1. *Coping Adaptiveness in the Therapeutic Process*

In terms of possible future research, further theoretical understanding of coping adaptiveness may also be helpful in terms of the therapeutic process. For example, coping adaptively may include a decision from the patient that it is more helpful to them not to engage in discussion of their difficulties, at the time of a scheduled session, preferring an alternative form of coping, such as avoidance or emotion-focused coping.

That session therefore could be used to explore what it is that allows them to be certain of this and to check that it does not equate to maladaptive avoidance of difficult issues. Alternatively, the session could be canceled or cut short. At first glance, such decisions could represent a potential inconvenience for the therapist, with a busy schedule and waiting list pressures. However, in light of high numbers of recorded cancellations and non-attendance (DNAs) by patients, this kind of response from them may, among other things, lead to clues regarding the reasons why such cancellations and DNAs occur.

42.1.2. *Coping Adaptiveness, Mindfulness, General Self-efficacy and Therapists*

Given the potentially stressful nature of therapeutic work from the perspective of therapists, coping adaptiveness, general self-efficacy and mindfulness may be important prerequisites for access to training in this line of work. Being high in these abilities may not only allow flexibility in approach to a wide variety of psychological difficulties and contexts, and perhaps also protect therapists from potential burn out, but could in addition have implications for patient therapy outcome. Stratton (2006) for example, addressed the question of whether therapists high in mindfulness were more able to help their clients achieve positive health outcomes. Although the results of that study did not support Stratton's contention, it is an interesting question that future research could perhaps pursue further. It is possible that a measure of mindfulness other than the MAAS, as used in the Stratton (2006) study, may lead to different results. This may allow a broader consideration, other than the awareness and self-regulatory aspects of

mindfulness to be explored in relation to this potentially important research question.

42.2. General Self-efficacy versus Mindfulness

The findings in both parts of this study that general self-efficacy and mindfulness may be related is not only interesting theoretically as discussed above, but may also be useful from a clinical perspective, in terms of exploring individual capacity for each in individuals who present with psychological difficulties. If those who are low in general self-efficacy also tend to be low in mindfulness, knowledge of individual capacity for both may help to inform therapeutic interventions. Given their association found here, it could be that developing ability in one might also simultaneously enhance ability to develop the other. In study 1, an equal strength of relationship was found between mindfulness and psychological distress and between general self-efficacy and psychological distress, inferring the usefulness of both abilities in terms of reducing symptoms. However, this finding does not help to answer the question of which ability might lend itself most usefully as a therapeutic starting point.

It is possible that learning a skill such as mindfulness could provide a relatively easy route to enhancement of an individual's general belief in their own efficacy, by virtue of becoming competent in managing their psychological symptoms and gaining greater control over their response to events. Whereas self-efficacious beliefs that may develop through successful accomplishment of therapeutic goals for example, such as in overcoming phobic anxiety using CBT, may not generalise to beliefs in ability to cope with other types of psychological distress.

Results from study 2 imply that the development of general self-efficacy is potentially the most helpful clinical starting point, both in terms of developing coping adaptiveness and achieving psychological wellbeing. Not only was it shown to have the stronger relationship with coping adaptiveness, it also had the stronger relationship with psychological wellbeing.

It is beyond the focus of the present study to explore this question further. However, it could be a useful focus of future research to further investigate the effectiveness of general self-efficacy and mindfulness in relation to psychological distress and wellbeing, and the mechanisms by which abilities in one may affect abilities in the other.

42.3. Coping Adaptiveness and Psycho-educational Courses

Encouraging self-efficacious beliefs and teaching the benefits of coping adaptiveness, may also be an important addition to the realm of psycho-educational courses for managing stress. Courses such as Mindfulness Based Stress Reduction (MBSR) already utilise mindfulness techniques to combat the potentially harmful effects of stress. However, perhaps further evidence of the ways in which mindful awareness may enable appropriate flexibility in coping, could also be incorporated into such courses.

Coping adaptiveness may also be a useful construct to examine within the relatively new coping research area of proactive coping, as referred to by, for example, Aspinwall and

Taylor (1997). Teaching its potential benefits, along with those of general self-efficacy and mindfulness, to nonclinical populations may be helpful in preventing maladaptive responses to stressful events that could potentially lead to psychological distress and the need to utilise mental health services.

43. SUMMARY

This study may be considered to have added to the growing evidence in relation to the possible psychological mechanisms that may underlie the ability to cope adaptively with life stresses. The finding in study 1 that coping adaptiveness, as measured by the PFI, is negatively related to psychological distress, and in study 2 that it is positively associated with psychological wellbeing, suggests the potential importance of this construct in the stress and coping domain. Results in study 1 also indicate the possible usefulness of the PFI measure in determining patient abilities in this realm, and for predicting or explaining the development and maintenance of psychological difficulties.

The surprising lack of relationship between discriminative facility and coping adaptiveness found in study 1 may be due more to the methodological weaknesses suggested above in relation to the format or scoring of the FMBS, as used here. The possibility that coping flexibly relies more on unconscious mechanisms rather than conscious judgement of controllability, has also been raised in this study. However, regardless of the apparent redundancy of discriminative facility in relation to any of the other constructs explored here, the theoretically likely importance of individual

judgement of controllability of a stressor deserves further consideration in research.

Finally, if as the results of this study suggest, coping adaptiveness is something that can be acquired or maintained by learning how to be mindful or developing general self-efficacy, developing these abilities may represent useful therapeutic goals. In addition, coping adaptiveness may also represent a means toward individual empowerment, in terms of learning how to manage one's response to stressful events, rather than being at their mercy.

REFERENCES

- Alker, H.A.(1968). Coping, defense, and socially desirable responses. *Psychological Reports*, 22, 985-988.
- Allport, G.W. (1937). *Personality: A psychological interpretation*. New York: Holt.
- Andrews, G., Crino, R., Hunt, C., Lampe, L. & Page, A. (1994). *Treatment of anxiety disorders: Clinicians guide and patient manuals*. Cambridge: Crambridge University Press.
- Annis, H.M. & Davis, C.S. (1988). Assessment of expectancies. In D.M. Donovan & G. A. Marlatt (Eds.) *Assessment of addictive behaviours*. New York: Guildford Press.
- Arnstein, P., Caudill, M., Mandle, C.L., Norris, A. & Beasley, R. (1999). Self-efficacy as the mediator of the relationship between pain intensity, disability and depression in chronic pain patients. *Pain*, 80, 483-491.
- Aspinwall, L.G. & Taylor, S.E. (1997). A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin*, 121, 417-436.
- Avarill, J.R. & Rosenn, M. (1972). Vigilant and nonvigilant coping strategies and psychophysical stress reactions during anticipation of electric shock. *Journal of Personality and Social Psychology*, 23, 128-141.
- Baer, R.A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, 10, 125-143.
- Baer, R.A., Smith, G.T. & Allen, K.B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11, 191-206.
- Bandura, A. (1977a). *Social learning theory*. New York: General Learning Press.
- Bandura, A. (1977b). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Bandura, A. (1983). Self-efficacy determinants of anticipated fears and calamities. *Journal of Personality and Social Psychology*, 45, 464-469.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. New York: Prentice-Hall.

- Bandura, A. (1989). Self-regulation of motivation and action through internal standards and goal systems. L.A. Pervin (Ed.) *Goal concepts in personality and social psychology*. Hillsdale, NJ: Erlbaum.
- Bandura, A. (1991). Self-efficacy mechanism in physiological activation and health-promoting behaviour. In J. Madden (Ed.) *Neurobiology of learning, emotion and affect*. New York: Raven Press.
- Bandura, A. (1992). Exercise of personal agency through the self-efficacy mechanism. In R. Schwarzer (Ed.) *Self-efficacy: Thought control of action*. Berlin: Taylor and Francis.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. & Adams, N.E. (1977). Analysis of self-efficacy theory of behavioural change. *Cognitive Therapy and Research*, 1, 287-308.
- Bandura, A., Adams, N.E. & Beyer, J. (1977). Cognitive processes mediating behavioural change. *Journal of Personality and Social Psychology*, 35, 125-139.
- Barefoot, J.C., Dahlstrom, W.G. & Williams, R.B. (1983). Hostility, CHD incidence and total mortality: A 25 year follow-up of 225 physicians. *Psychosomatic Medicine*, 45, 59-63.
- Barkham, M., Culverwell, A., Spindler, K., Twigg, E. & Connell, J. (2005). The CORE-OM in an older adult population: Psychometric status, acceptability and feasibility. *Ageing and Mental Health*, 9, 1-11.
- Barkham, M., Margison, F., Leach, C., Lucock, M., Mellor-Clark, J., Evans, C. *et al.* (2001). Service profiling and outcomes benchmarking using the CORE-OM. Toward practice-based evidence in the psychological therapies. *Journal of Consulting and Clinical Psychology*, 69, 184-196.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Barrett, J.E. & Hurst, M.W. (1982). Short-term symptom change in outpatients psychiatric disorders. *Archives of General Psychiatry*, 39, 849-854.
- Barron, F. (1953). An ego strength scale which predicts response to psychotherapy. *Journal of Consulting Psychology*, 17, 327-333.
- Bartlett, J. (1968). *Bartlett's familiar quotations*. (14th edn). Boston: Little, Brown.

Baum, A. & Posluszny, D.M. (1999). Health Psychology: Mapping biobehavioral contributions to health and illness. *Annual Review of Psychology*, 50, 137-163.

Bech, P. (2004). Measuring the dimensions of psychological general well-being with the WHO-5. *Quality of Life Newsletter*, 32, 15-16.

Beck, A.T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press.

Beck, A.T., Brown, G., Epstein, N. & Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56, 893-897.

Beck, A.T., Steer, R.A. & Brown, G.K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.

Ben-Zur, H. (2009). Coping styles and affect. *International Journal of Stress Management*, 16, 87-101.

Bennett, P. (2000). *Introduction to clinical health psychology*. Buckingham, Philadelphia: Open University Press.

Billings, A.G. & Moos, R.H. (1981). The role of coping responses and social resources in attenuating the impact of stressful life events. *Journal of Behavioural Medicine*, 4, 139-157.

Billings, A.G. & Moos, R.H. (1985). Life stressors and social resources affect post-treatment outcomes among depressed patients. *Journal of Abnormal Psychology*, 94, 140-153.

Bishop, S.R., Lau, M., Shapiro, S., Carlson, L., Anderson, N.D., Carmody, J. *et al.* (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 2, 230-241.

Bolger, E.A. & Schilling, E.A. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressors. *Journal of Personality*, 59, 335-386.

Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology*, 59, 525-537.

Bosscher, R.J. & Smit, J.H. (1998). Confirmatory factor analysis of the General Self-Efficacy Scale. *Behaviour Research and Therapy* 36, 339-343.

- Brown, K.W., Kasser, T., Ryan, R.M., Alex Linley, P. & Orzech, K. (2009). When what one has is enough: Mindfulness, financial desire discrepancy, and subjective well-being. *Journal of Research in Personality*, 43, 727-736.
- Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822-848.
- Buchheld, N., Grossman, P. & Walach, H. (2001). Measuring mindfulness in insight meditation (vipassana) and meditation based psychotherapy: The development of the Freiburg Mindfulness Inventory (FMI). *Journal for Meditation and Meditation Research*, 1, 11-34.
- Cacioppo, J. T. & Berntson, G. G. (1999). The affect system: and operating characteristics. *Current Directions in Psychological Science*, 8, -137.
- Cahill, J., Barkham, M., Stiles, W.B., Twigg, E., Hardy, G.E., Rees, A. & Evans, C. (2006). Convergent validity of the CORE measures with measures of depression for clients in cognitive therapy for depression. *Journal of Counseling Psychology*, 53, 253-259.
- Cane, D.B. & Gotlib, I.H. (1985). Depression and the effects of positive and negative feedback on expectations, evaluations, and performance. *Cognitive Therapy and Research*, 9, 145-160.
- Carr, A. (2004). *Positive psychology: The science of happiness and human strengths*. New York: Routledge.
- Carver, C.S., & Scheier, M.F. (1994). Situational coping and coping dispositions in a stressful transaction. *Journal of Personality and Social Psychology*, 66, 184-195.
- Carver, C.S., & Scheier, M.F. (1999). Stress, coping and self-regulatory processes. In L.A. Pervin & O.P. John (Eds.) *Handbook of personality*. (pp.553-575). New York: Guildford Press.
- Carver, C.S., Scheier, M.F. & Pozo, C. (1992). Conceptualizing the process of coping with health problems. In H.S. Friedman (Ed.) *Hostility, coping and health*. Washington, DC: American Psychological Association.
- Carver, C.S., Scheier, M.F. & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Cassidy, J. & Kobak, R.R. (1988). Avoidance and its relation to other defensive

processes. In J. Belsky & T. Nesworkski (Eds.) *Clinical implications of attachment* (pp.300-323). Hillsdale, NJ: Erlbaum.

Cattell, R.B., Eber, H.W. & Tatsuoka, M.M. (1970). *Handbook for the sixteen personality factor questionnaire*. Champaign, IL: Institute for Personality and Ability Testing.

Chadwick, P., Hember, M., Symes, J., Peters, E., Kuipers, E. & Dagnan, D. (2008). Responding mindfully to unpleasant thoughts and images: Reliability and validity of the Southampton mindfulness questionnaire (SMQ). *British Journal of Clinical Psychology*, 47, 451-455.

Chang, V.Y., Palesh, O., Caldwell, R., Glasgow, N., Abramson, M. *et al.* (2004). The effects of a mindfulness-based stress reduction programme on stress, mindful self-efficacy, and positive states of mind. *Stress and Health*, 20, 141-147.

Charrow, C.B. (2006). Self-efficacy as a predictor of life satisfaction in older adults. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 67 (1A), 292.

Chavance, M. (2004). Handling missing items in quality of life studies. *Communication in Statistics: Theory and Methods*, 33, 1371-1383.

Chen, G., Stanley, M. & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4 (1), 62-63.

Cheng, C. (2001) Assessing coping flexibility in real life and laboratory settings: A multi-method approach. *Journal of Personality and Social Psychology*, 80, 814-833.

Cheng, C. (2003). Cognitive and motivational processes underlying coping flexibility: A dual-process model. *Journal of Personality and Social Psychology*, 84, 425-438.

Cheng, C. & Cheung, M.W.L. (2005). Cognitive processes underlying coping flexibility: Differentiation and integration. *Journal of Personality*, 73, 859-886.

Cheng, C., Chiu, C., Hong, Y. & Cheung, J.S. (2001). Discriminative facility and its role in the perceived quality of interactional experiences. *Journal of Personality*, 69, 767-786.

Cheng, C., Hui, W. & Lam, S. (1999). Coping style of individuals with functional dyspepsia. *Psychosomatic Medicine*, 61, 789-795.

Cheng, C., Hui, W. & Lam, S. (2000). Perceptual style and behavioural pattern of individuals with functional gastrointestinal disorders. *Health Psychology*, 19, 146-154.

- Chesney, M. & Rosenman, R.H. (1983). Specificity in stress models: Examples drawn from type A behaviour. In C.L. Cooper (Ed.) *Stress Research*. New York: John Wiley and Sons, Ltd..
- Cheung, S.K. & Sun, S.Y.K. (1999). Assessment of optimistic self-beliefs: Further validation of the general self-efficacy scale. *Psychological Reports*, 85, 1221-1224.
- Cheung, S. K. & Sun, S.Y.K. (2000). Effects of self-efficacy and social support on the mental health conditions of mutual-aid organisation members. *Social Behaviour and Personality*, 28, 413-422.
- Cohen, F. & Lazarus, R.S. (1973). Active coping processes, coping dispositions, and recovery from surgery. *Psychosomatic Medicine*, 35, 375-389.
- Cohen, S., Kamarck, T. & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behaviour*, 24, 385-396.
- Cohen, J.S. & Miller, L.J. (2009). Interpersonal mindfulness training for well-being: A pilot study with psychology graduate students. *Teachers College Record*, 111, 2760-2774.
- Colin, V.L. (1996). *Human attachment*. New York: McGraw-Hill.
- Collins, D.L., Baum, A. & Singer, J.E. (1983). Coping with chronic stress at Three Mile Island: Psychological and biochemical evidence. *Health Psychology*, 2, 149-166.
- Compas, B.E., Malcarne, V.L. & Fondacaro, K.M. (1988). Coping with stressful events in older children and young adolescents. *Journal of Consulting and Clinical Psychology*, 56, 241-258.
- Corrigan, P. (2006). The self-stigma of mental illness: Implications for self-esteem and self-efficacy. *Journal of Social and Clinical Psychology*, 25, 875-884.
- Costa, P.T., Jr. & McCrae, R.R. (1992). The five factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders*, 6, 343-359.
- Cowen, E.L. (1991). In pursuit of wellness. *American Psychologist*, 46, 404-408.
- Cox, T. & Ferguson, E. (1991). Individual differences, stress and coping. In C.L. Cooper & R. Payne (Eds.) *Personality and stress: Individual differences in the stress process*. Chichester: John Wiley and Sons.
- Coyne, J.C. & Racioppo, M.W. (2000). Never the twain shall meet? Closing the gap between coping research and clinical intervention research. *American Psychologist*, 55, 655-664.

- Coyne, J.C. & Smith, D.A. (1991). Couples coping with a myocardial infarction: A contextual perspective on wives' distress. *Journal of Personality and Social Psychology*, 61, 404-412.
- Cramer, P. (2000). Defense mechanisms in psychology today: Further processes for adaptation. *American Psychologist*, 55 (6), 637-646.
- Cramer, P. (2001). The unconscious status of defense mechanisms. *American Psychologist*, 56, 760-766.
- Crowne, D. & Marlowe, D. (1964). *The approval motive*. New York: Wiley.
- Crozier, W.R. (1982). Explanations of social shyness. *Current Psychological Reviews*, 2, 47-60.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Daughtry, D. & Paulk, D. (2006). Gender differences in depression-related coping patterns. *Counselling and Clinical Psychology Journal*, 3, 47-59.
- Davis, F.W. & Yates, B.T. (1982). Self-Efficacy expectancies versus outcome expectancies as determinants of performance deficits and depressive affect. *Cognitive Therapy and Research*, 6, 23-35.
- Deary, I.J., Blenkin, H., Agius, R.M., Endler, N.S., Zealley, H. & Wood, R. (1996). Models of job-related stress and personal achievement among consultant doctors. *British Journal of Psychology*, 87, 3-29.
- Deci, E.L. & Ryan, R.M. (1980). Self-determination theory: When mind mediates behaviour. *The Journal of Mind and Behaviour*, 1, 33-43.
- Delahanty, D.L., Dougall, A.L., Hawken, L., Trakowski, J.H. & Schmitz, J.B. (1996). Time course of natural killer cell activity and lymphocyte proliferation in response to two acute stressors in healthy men. *Health Psychology*, 15, 48-55.
- Derogatis, L.R. (1994). *Symptom Checklist-90-R: Administration, scoring and procedures manual* (3rd edn.). Minneapolis, MN: NCS Pearson, Inc..
- Derogatis, L.R., Abeloff, M.D. & Melisaratos, N. (1979). Psychological coping mechanisms and survival time in metastatic breast cancer. *Journal of the American Medical Association*, 242, 1504-1508.

Derogatis, L.R. & DellaPietra, L. (1994). Psychological tests in screening for psychiatric disorder. In M. Maruish (Ed.) *The use of psychological testing for treatment planning and outcome assessment*. Hillsdale, NJ: Lawrence Erlbaum.

Diagnostic and Statistical Manual 4th edition-revised text (2000). Washington DC: American Psychiatric Association.

Diener, E. (1979). Deindividuation, self-awareness, and disinhibition. *Journal of Personality and Social Psychology*, 37, 1160-1171.

Diener, E., Emmons, R.A., Larsen, R.J. & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Dollard, J. & Miller, N.E. (1950). *Personality and Psychotherapy*. New York: McGraw-Hill.

Dunkel-Schetter, C., Feinstein, L.G., Taylor, S.E. & Falke, R.L. (1992). Patterns of coping with cancer. *Health Psychology*, 11, 79-87.

Durban, J. & Watson, G.S. (1951). Testing for serial correlations in least squares regression, 11. *Biometrika*, 38, -179.

Edwards, J.R. (1988). The determinants and consequences of coping with stress. In C.L. Cooper & R. Payne (Eds.) *Causes, coping, and consequences of stress at work*. Chichester: Wiley.

Ell, K.O. (1986). Coping with serious illness: On integrating constructs to enhance clinical research, assessment and intervention. *International Journal of Psychiatry in Medicine*, 15, 335-336.

Endicott, J., Spitzer, R.L., Fleiss, J.L. & Cohen, J. (1976). The Global Assessment Scale: A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry*, 33, 766-771.

Endler, N.S. (1997). Stress, anxiety and coping: The multidimensional interaction model. *Canadian Psychology*, 38 (5), 136-153.

Endler, N.S. & Parker, J.D. (1989). Coping with frustrations to self-realization: Stress, anxiety, crises and adjustment. In E. Kraus (Ed.) *Self-realization, success and adjustment* (pp.153-164). New York: Praeger.

Endler, N.S. & Parker, J.D. (1990). State and trait anxiety, depression and coping styles. *Australian Journal of Psychology*, 41, 207-220.

Endler, N.S. & Parker, J.D. (1991). *Coping Inventory for Stressful Situations: Manual*. Toronto, Canada: Multi-Health Systems.

Erdelyi, M.H. (2001). Defense processes can be conscious or unconscious. *American Psychologist*, 56, 760-766.

Evans, C., Connell, J., Barkham, M., Marshall, C. & Mellor-Clark, J. (2003). Practice-based evidence: Benchmarking NHS primary care counselling services at national and local levels. *Clinical Psychology and Psychotherapy*, 10, 374-388.

Eysenck, H.J. (1970). *The structure of human personality*. London: Methuen.

Eysenck, H.J. (1976). *Sex and personality*. London: Open Books.

Eysenck, H.J. (1983). Stress, disease, and personality: The 'inoculation effect'. In C.L. Cooper (Ed.) *Stress Research*. New York: John Wiley and Sons, Ltd..

Feeney, B.C. (2007). The dependency paradox in close relationships. *Journal of Personality and Social Psychology*, 92, 268-285.

Field, A. (2009). *Discovering statistics using SPSS: And sex and drugs and rock n' roll*. London: Sage Publications Ltd.

Fenigstein, A., Scheier, M. F. & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, 45, 522-527.

Fiori, K. (2006). Social relations and depression symptomatology: Self-efficacy as a mediator. *Ageing and Mental Health*, 10, 227-

Fleischman, J.A. (1984). Personality characteristics and coping patterns. *Journal of Health and Social Behaviour*, 25, 229-244.

Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science Medicine*, 45, 1207-1221.

Folkman, S. (2009). Questions, answers, issues, and next steps in stress and coping research. *European Psychologist*, 14 (1), 72-77.

Folkman, S. & Lazarus, R.S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behaviour*, 21, 219-239.

Folkman, S. & Lazarus, R.S. (1985). If it changes it must be a process: A study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*, 48, 150-170.

- Folkman, S. & Moskowitz, J.T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55, 647-654.
- Folkman, S. & Moskowitz, J.T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745-774.
- Folkman, S., Chesney, M.A. & Christopher-Richards, A. (1994). Stress and coping in partners of men with AIDS. *Psychiatric Clinics of North America*, 17, 35-55.
- Folkman, S., Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. & Gruen, R.J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, 50, 992-1003.
- Forsyth, C.J. & Compas, B.E. (1987). Interaction of cognitive appraisals of stressful events and coping: Testing the goodness of fit hypothesis. *Cognitive Therapy and Research*, 11, 473-485.
- Freud, S. (1933). *New introductory lectures on psycho-analysis*. London: Hogarth Press and the Institute of Psychoanalysis.
- Friedman, M. & Rosenman, R.H. (1974). *Type A behaviour and your heart*. New York: Knopf.
- Frisch, M.B., Cornell, J., Villanueva, M. & Retzlaff, P.J. (1992). Clinical validation of the Quality of Life Inventory: A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment*, 4, 92-101.
- Fritz, M.S. & MacKinnon, D.P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18, 233-239.
- Gan, G, Shang, J. & Zhang, Y. (2007). Coping flexibility and locus of control as predictors of burnout among Chinese college students. *Social Behaviour and Personality*, 35, 1087-1098.
- Gans, J.J. (2010). Mindfulness-based tinnitus therapy is an approach with ancient roots. *The Hearing Journal*, 63(11), 52-56.
- Gillespie, A., Peltzer, K. & MacLachlan, M. (2000). Returning refugees: Psychosocial problems and mediators of mental health among Malawian returnees. *Journal of Mental Health*, 9, 165-178.
- Goldberg, D.P. (1972). *The detection of psychiatric illness by questionnaire*. London: Oxford University Press.

- Goldberg, D.P. & Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-NELSON.
- Goldberg, L.R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34.
- Gray, J. (1993). *Men are from Mars, women are from Venus: A practical guide for improving communication and getting what you want in relationships*. London: Thorsons.
- Green, S.B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioural Research*, 26, 499-510.
- Greenglass, E.R. & Fiksenbaum, L. (2009). Proactive coping, positive affect, and well-being: Testing for mediation using path analysis. *European Psychologist*, 14 (2), 29-39.
- Greenwald, A.G. (1992). Unconscious cognition reclaimed. *American Psychologist*, 47, 766-779.
- Greer, S. (1991). Psychological response to cancer and survival. *Psychological Medicine*, 21, 40-49.
- Grinker, R.R. & Spiegel, J.P. (1945). *Men under stress*. New York: McGraw-Hill.
- Gurin, P., Gurin, G., Lao, R. C. & Beattie, M. (1969). Internal-external control in the motivational dynamics of Negro youth. *Journal of Social Issues*, 25, 29-53.
- Haan, N.A. (1963). Proposed model of ego functioning: Coping and defense mechanisms in relationship to IQ change. *Psychological Monograph*, 77 (8), 1-27.
- Haan, N.A. (1965). Coping and defense mechanisms related to personality inventories. *Journal of Consulting Psychology*, 29, 373-378.
- Haan, N.A. (1977). *Coping and defending: Processes of self-environment organisation*. New York: Academic Press.
- Hamburg, D.A. & Adams, J.E. (1967). A perspective on coping behaviour: Seeking and utilizing information in major transitions. *Archives of General Psychiatry*, 17, 277-284.
- Hampton, N.Z. (2000). Self-efficacy and quality of life in people with spinal chord injuries in China. *Rehabilitation Counselling Bulletin*, 43, 66-74.
- Hanh, T.N. (1976). *The miracle of mindfulness*. Boston: Beacon Press.

- Hawton, K., Salkovskis, P.M., Kirk, J. & Clarl, D.M. (Eds.) (2004). *Cognitive Behavioural Therapy for psychiatric problems*. New York: Oxford University Press.
- Hayes, A.F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millenium. *Communication Monographs*, 76, 408-420.
- Hayes, S.C., Strosahl, K. & Wilson, K.G. (1999). *Acceptance and commitment therapy*. New York: Guilford Press.
- Hayes, S.C., Strosahl, K., Wilson, K.G., Bissett, R.T., Pistorello, J., Toarmino, D. *et al.* (2004). Measuring experiential avoidance: A preliminary test of a working model. *The Psychological Record*, 54, 553-578.
- Henson, R.K. (2001). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development*, 34, 177-189.
- Heppner, P.P. & Peterson, C.H. (1982). The development and implications of a Personal Problem-Solving Inventory. *Journal of Counselling Psychology*, 29, 66-75.
- Herman, J.L. (2001). *Trauma and Recovery*. London: Pandora.
- Hinkle, L.E., Jr. (1973). The concept of "stress" in the biological and social sciences. *Science, Medicine and Man*, 1, 31-48.
- Holahan, C.J. & Moos, R.H. (1985). Life stress and health: Personality, coping, and family support in stress resistance. *Journal of Personality and Social Psychology*, 49, 739-747.
- Holahan, C.J. & Moos, R.H. (1986). Personality, coping, and family resources in stress resistance. *Journal of Personality and Social Psychology*, 51, 389-395.
- Holahan, C.J., Moos, R.H., Holahan, C.K., Brennan, P.L. & Schutte, K.K. (2005). Stress generation, avoidance coping, and depressive symptoms: A 10-year model. *Journal of Consulting and Clinical Psychology*, 73, 658-666.
- Holahan, C.J., Moos, R.H. & Schaefer, J.A. (1996). Coping, stress resistance and growth: Conceptualizing adaptive functioning. In M. Zeidner & N.S. Endler (Eds.) *Handbook of Coping: Theory, research, applications*. New York: John Wiley and Sons.
- Holland, J.L. & Baird, L.L. (1968). An interpersonal competency scale. *Educational and Psychological Measurement*, 28, 503-510.
- Hollandsworth, J.C. (1987). Subjective wellbeing and behaviour therapy: Challenge, opportunity or dead end? *The Behaviour Therapist*, 3, 65-68.

- Hollandsworth, J.C. (1988). Evaluating the impact of medical treatment on the quality of life: A 5-year update. *Social Science and Medicine*, 4, 425-434.
- Holman, H. & Lorig, K. (1992). Perceived self-efficacy in self-management of chronic disease. In R. Schwarzer (Ed.) *Self-efficacy: Thought control of action*. Freie Universitat Berlin: Taylor & Francis.
- Holmes, D.S. (1978). Projection as a defense mechanism. *Psychological Bulletin*, 85, 677-688.
- Holmes, D.S. (1990). The evidence for repression: An examination of sixty years of research. In J.L. Singer (Ed.) *Repression and dissociation* (pp.85-102). Chicago: University of Chicago Press.
- Holmes, T.H. & Rahe, R.H. (1967). The Social Readjustment Scale. *Journal of Psychosomatic Research*, 2, 213-218.
- Horgan, J. (2003). *Rational mysticism*. Boston: Houghton Mifflin.
- Horowitz, M. (1976). *Stress response syndromes*. New York: Aronson.
- Horowitz, M. (1979). Psychological response to serious life events. In V. Hamilton & D. M. Warburton (Eds.) *Human stress and cognition: An information processing approach*. Chichester, England: Wiley.
- Horowitz, M. J. (1991). *Hysterical personality style and the histrionic personality disorder*. Northvale, NJ: Jason Aronson.
- Horowitz, M. (2002). Self and relational observation. *Journal of Psychotherapy Integration*, 12, 115-127.
- Howerton, A. & Gundy, K.V. (2009). Sex differences in coping styles and implications for depressed mood. *International Journal of Stress Management*, 16, 333-350.
- Huppert, F.A. & Whittington, J.E. (2003). Evidence for the independence of positive and negative wellbeing: Implications for quality of life assessment. *British Journal of Health Psychology*, 8, 107-122.
- Isen, A.M., Daubman, K.A. & Nowicki, G.P. (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology*, 52, 1122-1131.
- Jacoby, L.L. (1991). A process dissociation framework: Separating automatic from intentional uses of memory. *Journal of Memory and Language*, 30, 513-541.

- Jermann, F., Billieux, J., Laroie, F., d'Argembeau, A., Bandolfi, G., Zermatten, A., *et al.* (2009). Mindful Attention Awareness Scale (MAAS): Psychometric properties of the French translation and exploration of its relations with emotion regulation strategies. *Psychological Assessment, 21*, 506-514.
- Jerusalem, M. & Schwarzer, R. (1992). Self-Efficacy as a resource factor in stress appraisal processes. In Schwarzer, R.(Ed.) *Self-Efficacy: Thought control of action*. Freie Universitat Berlin: Taylor & Francis.
- Johnstone, K.A. & Page, A.C. (2004). Attention to phobic stimuli during exposure: The effect of distraction on anxiety reduction, self-efficacy and perceived control. *Behaviour Research and Therapy, 42*, 249-275.
- Kabat-Zinn, J. (1982). An outpatient programme in behavioural medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*, 33-47.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York: Delacorte.
- Kabat-Zinn, J., Lipworth, L. & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioural Medicine, 8*, 163-190.
- Kabat-Zinn, J., Massion, A.O., Kristeller, J., Peterson, L.G., Fletcher, K.E., Pbert, L., *et al.* (1992). Effectiveness of a meditation-based stress reduction programme in the treatment of anxiety disorders. *American Journal of Psychiatry, 149*, 936-943.
- Kaluza, G. (2000). Changing unbalanced coping profiles - A prospective controlled intervention trial in worksite health promotion. *Psychology and Health, 15*, 423-433.
- Kammann, R. & Flett, R. (1983). A scale to measure current level of general happiness. *Australian Psychologist, 35*, 259-265.
- Kenny, D.A.(2009). *Mediation*. www.Davidakenny.net/cm/mediate.htm#wim. Update November 15th, 2009.
- Keyes, C.L.M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*, 539-548.
- King, L.A. & Pennebaker, J.W. (1998). What's so great about feeling good? *Psychological Inquiry, 9*, 53-56.
- Kirk, J. (2004). Cognitive-behavioural assessment. In K. Hawton, P.M. Salkovskis, J.

Kirk, D.M. Clark (Eds.) *Cognitive behaviour therapy for psychiatric problems: A practical guide*. New York: Oxford University Press.

Kobasa, S.C. (1979). Stressful life events and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1-11.

Koeter, M.W. (1992). Validity of the GHQ and SCL Anxiety and Depression scales: A comparative study. *Journal of Affective Disorders*, 24, 271-279.

Kohlmann, C.W. (1993). Rigid and flexible modes of coping: Related to coping style? *Anxiety, Stress and Coping*, 6, 107-123.

Kohn, P.M. & Annis, H.M. (1975). Validity data on a modified version of Pearson's Novelty Experiencing Scale. *Canadian Journal of Behavioural Science*, 7, 274-278.

Kohn, P.M. (1996). On coping adaptively with daily hassles. In M. Zeidner & N.S. Endler (Eds.). *Handbook of coping: Theory, research, applications*. New York: John Wiley & Sons, Inc.

Kohn, P.M. & O'Brien, C. (1997). The Situational Response Inventory: A measure of adaptive coping. *Personality and Individual Differences*, 22, 85-92.

Kohn, P. M., O'Brien, C. & Pickering, D.I. (1997). Adaptiveness: A moderator of the adverse impact of hassles? *Personality and Individual Differences*, 22, 895-899.

Kohn, P.M., O'Brien-Wood, C., Pickering, D.I. & Decicco, T.L. (2003). The personal functioning inventory: A reliable and valid measure of adaptiveness in coping. *Canadian Journal of Behavioural Science*, 35, 111-123.

Kristeller, J.L. & Hallett, C.B. (1999). An explorative study of a meditation-based intervention for binge eating disorder. *Journal of Health Psychology*, 4, 357-363.

Krohne, H.W., Slangen, K. & Kleemann, P.P. (1996). Coping variables as predictors of perioperative emotional states and adjustment. *Psychology and Health*, 11, 315-330.

Kune, G.A., Kune, S., Watson, L.F. & Bahnson, C.B. (1991). Personality as a risk factor in large bowel cancer: Data from the Melbourne Colorectal Cancer Study. *Psychological Medicine*, 21, 43-60.

Larsen, J.T., McGraw, A.P. & Cacioppo, J.T. (2001). Can people feel happy and sad at the same time? *Journal of Personality and Social Psychology*, 81, 684-696.

Laux, L. & Weber, H. (1991). Presentations of self in coping with anger: An intentional approach. *Anxiety Research*, 3, 233-255.

- Lazarus, R.S. (1964). A laboratory approach to the dynamics of psychological stress. *American Psychologist*, 19, 400-411.
- Lazarus, R.S. (1966). *Psychological stress and the coping process*. New York: McGraw-Hill.
- Lazarus, R.S. (1983). The costs and benefits of denial. In S. Breznitz (Ed.) *Denial of stress*. New York: International Universities Press.
- Lazarus, R.S. (1993). Why We Should Think of Stress as a Subset of Emotion. In L. Goldberger & S. Breznitz (Eds) *Handbook of Stress: Theoretical and Clinical Aspects*. (2nd edn.) New York: N.Y. Free Press.
- Lazarus, R.S. (1998). *Fifty years of the research and theory of R.S. Lazarus: Perennial historical issues*. Mahwah, NJ: Erlbaum.
- Lazarus, R.S. (1999). *Stress and emotion: A new synthesis*. London: Free Association Books.
- Lazarus, R.S. (2000). Toward better research on stress and coping. *American Psychologist*, 55, 665-673.
- Lazarus, R.S. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer Publishing Company.
- Leary, M.R., Adams, C. E. & Tate, E.B. (2006). Hypo-egoic self-regulation: Exercising self-control by diminishing the influence of the self. *Journal of Personality*, 74, 1803-1831.
- Leary, M.R. & Tangney, J.P. (Eds.) (2005). *Handbook of self and identity*. New York: Guilford Press.
- Lefcourt, H.M. (1992). Perceived control, personal effectiveness, and emotional states. In B.N. Carpenter (Ed.) *Personal coping: Theory, research, application*. Westport, CT: Praeger.
- Lester, N., Smart, L. & Baum, A. (1994). Measuring coping flexibility. *Psychology and Health*, 9, 409-424.
- Lightsey, O.R., Jr. (1997). Stress buffers and dysphoria: A prospective study. *The Journal of Cognitive Psychotherapy*, 11, 263-277.
- Lightsey, O.R., Jr., Burke, M., Ervin, A., Henderson, D. & Yee, C. (2006). Generalised self-efficacy, self-esteem, and negative affect. *Canadian Journal of Behavioural Science*, 38 (1), 72-80.

Lightsey, O.R., Jr. & Christopher, J.C. (1997). Stress buffers and dysphoria in a non-Western population. *Journal of Counselling and Development*, 75, 451-459.

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder*. New York: Guilford Press.

Linehan, M.M. (1993b). *Skills training manual for treating borderline personality disorder*. New York: Guilford Press.

Litman, G.K., Elser, J.R., Rawson, N.S.B. & Oppenheim, A.N. (1979). Differences in relapse precipitants and coping behaviour between alcohol relapsers and survivors. *Behaviour Research and Therapy*, 17, 89-94.

Locke, E.A. & Latham, G.P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.

Lumsden, D.P. (1981). Is the concept of "stress" of any use anymore? In D. Randall (Ed.) *Contributions to primary prevention in mental health: Working papers*. Toronto: Toronto National Office of the Canadian Mental Health Association.

Luszczynska, A., Gutierrez - Dona, B. & Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: Evidence from five countries. *International Journal of Psychology*, 40, 80-89.

McCarthy, J. (2010, 7 December). Mental yoga: Why psychological flexibility is the key to your wellbeing. Article retrieved 15 March 2012 from www.psychologyofwellbeing.com/201012/mental-yoga.html.

McGregor, I. & Little, B.R. (1998). Personal projects, happiness, and meaning: On doing well and being yourself. *Journal of Personality and Social Psychology*, 74, -512.

MacKillop, J. & Anderson, E.J. (2007). Further psychometric validation of the Mindful Attention Awareness Scale (MAAS). *Journal of Psychopathology and Behavioural Assessment*, 29, 289-293.

Maddux, J.E. & Gosselin, J.T. (2005) Self-Efficacy. In M.R. Leary & J.P. Tangney (Eds.) *Handbook of self and identity*. New York: The Guildford Press.

Maddux, J.E. & Meier, L.J. (1995). Self-efficacy and depression. In J.E. Maddux (Ed.) *Self-efficacy, adaptation, and adjustment: Theory, research and application*. New York: Plenum Press.

Magnus, K., Diener, E., Fujita, F. & Pavot, W. (1993). Extraversion and neuroticism as

predictors of objective life events: A longitudinal analysis. *Personality and Social Psychology*, 65, 1046-1053.

Marlatt, G.A. & Kristeller, J.L. (1999). Mindfulness and meditation. In W.R. Miller (Ed.) *Integrating spirituality into treatment*. Washington, DC: American Psychological Association.

Marlowe, N. (1998). Self-efficacy moderates the impact of stressful events on headache. *Headache*, 38, 662-667.

Matthews, G. & Deary, I.J. (1998). *Personality traits*. Cambridge: Cambridge University Press.

Matthews, G., Dorn, L. & Glendon, A.I. (1991). Personality correlates of driver stress. *Personality and Individual Differences*, 12, 535-549.

Mattlin, J.A., Wethington, E. & Kessler, R.C. (1990). Situational determinants of coping and coping effectiveness. *Journal of Health and Social Behaviour*, 31, 103-122.

McCrae, R.R. & Costa, P.T. (1986). Personality, coping and coping effectiveness in an adult sample. *Journal of Personality*, 54, 385-405.

McIntosh, W.D. (1997). East meets West: Parallels between Zen Buddhism and social psychology. *International Journal for the Psychology of Religion*, 7, 37-52.

McKay, M. (2001). Emotional intelligence in relation to depression, coping styles and personality: An explorative study. *Unpublished Dissertation*, University of Edinburgh.

McNaughton, M.E., Patterson, T.L. & Grant, I. (1992). The relationship of life adversity, social support, and coping to hospitalisation with major depression. *Journal of Mental and Nervous Disease*, 180, 491-497.

Mason, O. & Hargreaves, I. (2001). A qualitative study of mindfulness based cognitive therapy for depression. *British Journal of Medical Psychology*, 74, 197-212.

Menaghan, E. (1982). Measuring coping effectiveness: A panel analysis of marital problems and coping efforts. *Journal of Health and Social Behaviour*, 23, 220-234.

Miller, S.M. (1980). When is a little knowledge a dangerous thing? Coping with stressful events by monitoring vs blunting. In S. Levine & H. Ursin (Eds.) *Coping and health*. New York: Plenum Press.

Miller, S.M. (1987). Monitoring and blunting: Validation of a questionnaire to assess styles of information seeking under threat. *Journal of Personality and Social Psychology*, 52, 345-353.

Miller, S.M. (1995). Monitoring versus blunting styles of coping with cancer influence the information patients want and need about their disease: Implications for cancer screening and management. *Cancer*, 76, 167-177.

Miller, S.M. & Grant, R. (1979). The blunting hypothesis: A view of predictability and human stress. In P.O. Sjoden, S.Bates & W.S. Dockens (Eds.) *Trends in Behaviour Therapy*. New York: Academic Press.

Miller, S.M. & Mangan, C.E. (1983). Interacting effects of information and coping style in adaptation to gynecological stress: When should the doctor tell all? *Journal of Personality and Social Psychology*, 45, 223-236.

Miller, S.M. & Schnoll, R.A. (2000). When seeing is feeling: A cognitive-emotional approach to coping with health stress. In M.Lewis & J. Haviland (Eds.) *Handbook of Emotions*. NY: Plenum Press.

Miller, S.M., Brody, D.S. & Summerton, J. (1988). Styles of coping with threat: Implications for health. *Journal of Personality and Social Psychology*, 54, 142-148.

Miller, S.M., Shoda, Y. & Hurley, K. (1996). Applying cognitive-social theory to health-protective behaviour: Breast self-examination in cancer screening. *Psychological Bulletin*, 119, 70-94.

Miro, J. (1997). Translation, validation and adaptation of an instrument to assess the information-seeking style of coping with stress: The Spanish version of the Miller Behavioural Style Scale. *Personality and Individual Differences*, 23, 909-912.

Mischel, W. (1984). Convergences and challenges in the search for consistency. *American Psychologist*, 39, 351-364.

Mischel, W. & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualising situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, 102, 246-268.

Mischel, W. & Shoda, Y. (1998). Reconciling processing dynamics and personality dispositions. *Annual Review of Psychology*, 49, 229-258.

Moeller, D.M., Richards, C.S., Hooker, K.A. & Ursino, A.A. (1992). Gender differences in the effectiveness of coping with dysphoria: A longitudinal study. *Counselling Psychology Quarterly*, 5, 349-357.

Moos, R.H. & Schaefer, J.A. (1986). *Coping with life crises: An integrated approach*. New York: Plenum Press.

- Moskowitz, J.T., Folkman, S., Collette, L. & Vittinghoff, E. (1996). Coping and mood during AIDS-related caregiving and bereavement. *Annals of Behavioural Medicine*, 18, 49-57.
- Mullins, L.L., Olson, R.H., Reyes, S., Huszti, H.C. & Volk, R.J. (1991). Risk and resistance factors in the adaptation of mothers of children with cystic fibrosis. *Journal of Peadiatric Psychology*, 16, 701-715.
- Newman, L.S. (2001). Coping and defenses: No clear distinction. *American Psychologist*, 56, 760-766.
- Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory* (3rd edn.) New York: McGraw-Hill.
- O'Leary, K.D. & Smith, D.A. (1991). Marital interactions. *Annual Review of Psychology*, 42, 191-212.
- Park, C.L. & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology*, 1, 115-144.
- Parker, J.D.A. & Endler, N.S. (1996). Coping and defense: A historical review. In M.Zeidner & N.S. Endler (Eds.) *Handbook of coping*. New York: John Wiley & Sons.
- Paterson, R.J. & Neufeld, R.W.J. (1989). The stress response and parameters of stressful situations. In R.W.J. Neufeld (Ed.) *Advances in the investigation of psychological stress*. New York: John Wiley and Sons.
- Paulhaus, D.L. & Reid, D.B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.
- Pearlin, L.I. & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behaviour*, 19, 2-21.
- Pearson, P.H. (1970). Relationships between global and specified measures of novelty seeking. *Journal of Consulting and Clinical Psychology*, 34, 199-204.
- Pearson, P.H. (1971). Differential relationships between global and specified measures of novelty seeking. *Journal of Consulting and Clinical Psychology*, 37, 23-30.
- Peveler, R.C. & Fairburn, C.G. (1990). Measurement of neurotic symptoms by self-report questionnaire: Validity of the SCL-90-R. *Psychological Medicine*, 20, 873-879.
- Porter, L.S. & Stone, A.A. (1996). An approach to assessing daily coping. In M.Zeidner & N.S. Endler (Eds.) *Handbook of coping*. New York: John Wiley & Sons.

- Preacher, K.J. & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour Research Methods, Instruments, & Computers*, 36, 717-731.
- Preacher, K.J. & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behaviour Research Methods*, 40, 879-891.
- Rao, D. & Seema, M.(2006). Negotiation of life-tasks and subjective wellbeing in young adults pursuing professional courses. *Psychological Studies*, 51, 144-152.
- Reynolds, W. R. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38, 119-125.
- Richards, A., Barkham, M., Cahill, J., Richards, D., Williams, C. & Heywood, P. (2003). A pragmatic randomised trial of supervised self-help technology. *British Journal of General Practice*, 53, 764-770.
- Robbins, S., Lauver, K., Le, H., Davis, D., Langley, R. & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130, 261-288.
- Robson, P. (1989). Development of a new self-report questionnaire to measure self-esteem. *Psychological Medicine*, 19, 513-518.
- Roger, D., Jarvis, G. & Najarian, B. (1993). Detachment and coping: The construction and validation of a new scale for measuring coping strategies. *Personality and Individual Differences*, 15, 619-626.
- Rogers, C. R. (1963). The actualizing tendency in relation to "motives" and to consciousness. In M.R. Jones (Ed.) *Nebraska symposium on motivation*. Lincoln: University Nebraska Press.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Roth, S. & Cohen, L.J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, 41, 813-819.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80 (1).
- Rottmann, N., Dalton, S.O., Christensen, J., Fredericksen, K. & Johansen, C. (2010).

Self-efficacy, adjustment style and well-being in breast cancer patients: A longitudinal study. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation*, 19, 827-836.

Roussi, P., Miller S.M. & Shoda, Y. (2000). Discriminative facility in the face of threat: Relationship to psychological distress. *Psychology and Health*, 15, 21-33.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and wellbeing. *American Psychologist*, 55, 68-78.

Ryan, R.M. & Deci, E.L. (2001). On happiness and human potential: A review of research on hedonic and eudaimonic wellbeing. *Annual Review of Psychology*, 52, 141-166.

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, -1081.

Ryff, C.D. & Keyes, C.L.M. (1995). The structure of psychological wellbeing re-visited. *Journal of Personality and Social Psychology*, 69, 719-727.

Ryff, C.D. & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry*, 9, 1-28.

Ryff, C.D. & Singer, B. (2000). Interpersonal flourishing: A positive health agenda for the new millenium. *Personality and Social Psychology Review*, 4, 30-44.

Sapolsky, R.M. (1998). *Why zebras don't get ulcers: A guide to stress, stress related diseases and coping*. New York: W.H. Freeman and Company.

Savin, N.E. & White, K.J. (1977). The Durban-Watson test for serial correlation with extreme sample sizes or many regressors. *Econometrica*, 45, 1989-1996.

Scheier, M., & Carver, C. (1985). Optimism, coping, and health: Assessment and implications of generalised outcome expectancies. *Health Psychology*, 4, 219-247.

Scheier, M.F., Matthews, K.A., Owens, J.F., Magovern, G.J., Lefebvre, R.C., Abbott, R.A., *et al.* (1989). Dispositional optimism and recovery from coronary artery bypass surgery: The beneficial effects of physical and psychological wellbeing. *Journal of Personality and Social Psychology*, 57, 1024-1040.

Scherbaum, C.A., Cohen-Charash, Y. & Kern, M.J. (2006). Measuring general self-efficacy: A comparison of three measures using item response theory. *Educational and Psychological Measurement*, 66, 1047-1063.

Schmertz, S.K. (2008). Rumination as a mediator of the relation between mindfulness and social anxiety in a clinical sample. *Psychology Dissertations*, Paper 71.

Scholz, U., Gutierrez Doza, B., Sud, S. & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychometric Assessment*, 18, 242-251.

Schwartz, J.E., Neale, J., Marco, C., Shiffman, S.S. & Stone, A.A. (1999). Does trait coping exist? A momentary assessment approach to the evaluation of traits. *Journal of Personality and Social Psychology*, 77, 360-369.

Schwarzer, R. (1992). Self-efficacy in the adoption and maintenance of health behaviours: Theoretical approaches and a new model. In R. Schwarzer (Ed.) *Self-efficacy: Thought control in action*. Frei Universitat, Berlin: Taylor & Francis.

Schwarzer, R. (1997). General Percieved Self-efficacy in 14 cultures. www.userpage.fu-berlin.de/~health/world14.htm.

Schwarzer, R. & Born, A. (1997). Optimistic self-beliefs: Assessment of general perceived self-efficacy in thirteen cultures. *World Psychology*, 3, 177-190.

Schwarzer, R. & Jersusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weisman, S. Wright, & M. Johnston (Eds.) *Measures in health psychology: A user's portfolio*. (pp.35-37). Windsor, UK: NFER-NELSON.

Schwarzer, R. & Jersusalem, M. (Eds.) (1999). *Scales for the assessment of teacher and student characteristics*. Berlin, Germany: Freie University.

Segal, Z.V., Williams, J.M.G. & Teasdale, J.D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach for preventing relapse*. New York: Guilford Press.

Segerstrom, S.C. & Miller, G.E. (2004). Psychological stress and the human immune system: A meta-analytic analysis of 30 years of Inquiry. *Psychological Bulletin*, 130, 601-630.

Selye, H. (1950). *The physiology and pathology of exposure to stress*. Montreal: Acta.

Selye, H. (1956). *The stress of life*. New York: McGraw-Hill.

Shaffer, J.W., Graves, P.L., Swank, R.T. & Pearson, T.A. (1987). Clustering of personality traits in youth and the subsequent development of cancer among physicians. *Journal of Behavioural Medicine*, 10, 441-447.

Shapiro, J. (1986). Assessment of family coping with illness. *Psychosomatic Medicine*, 27, 262-271.

- Shapiro, S.L. & Schwartz, G.E.R. (1999). Intentional systematic mindfulness: An integrative model for self-regulation and health. *Advances in Mind-Body Medicine*, 15, 128-134.
- Shapiro, S.L., Schwartz, G.E.R. & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioural Medicine*, 21, 581-599.
- Shedler, J., Mayman, M. & Manis, M. (1993). The illusion of mental health. *American Psychologist*, 48, 1117-1131.
- Sheehy, N. (2004). *Fifty key thinkers in psychology*. London: Routledge.
- Sheldon, K.M., Ryan, R. & Reis, H.T. (1996) What Makes for a Good Day? Competence and Autonomy in the Day and in the Person. *Personality and Social Psychology Bulletin*, 22, 1270-1279.
- Sherer, M. & Adams, C. (1983). Construct validation of the self-efficacy scale. *Psychological Reports*, 53, 899-902.
- Sherer, M., Maddox, J.E., Mercandante, B., Prentice-Dunn, S., Jacob, B. & Rogers, R.W. (1982). The Self-Efficacy Scale: Construction and validation. *Psychological Reports*, 51, 663-671.
- Shontz, F.C. (1975). *The psychological aspects of physical illness and disability*. New York: Macmillan.
- Shorter, E. (1997). *A history of psychiatry: From the era of the asylum to the age of prozac*. New York: John Wiley & Sons.
- Sidle, A., Moos, R.H., Adams, J. & Cady, P. (1969). Development of a coping scale. *Archives of General Psychiatry*, 20, 225-232.
- Skinner, E.A., Chapman, M. & Baltes, P.B. (1988). Control, means-ends, and agency beliefs: A new conceptualization and its measurement during childhood. *Journal of Personality and Social Psychology*, 54, 117-133.
- Smith, A. (2005). Young peoples' experiences after traumatic or negative events: A qualitative exploration. *Unpublished Dissertation*, University of Edinburgh.
- Smith, R.E. (1989). Effects of coping skills training on generalised self-efficacy and locus of control. *Journal of Personality and Social Psychology*, 56, 228-233.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural

equation models. In S. Leinhardt (Ed.) *Sociological Methodology* (pp. 290-312).

Washington DC: American Sociological Association.

Somerfield, M.R. & McCrae, R.R. (2000). Stress and coping research: Methodological challenges, theoretical advances, and clinical applications. *American Psychologist*, 55, 620-625.

Specia, M., Carlson, L., Goddey, E. & Angen, M. (2000). A randomised wait-list controlled trial: The effects of a mindfulness meditation-based stress reduction programme in mood and symptoms of stress in cancer outpatients. *Psychosomatic Medicine*, 62, 613-622.

Stajkovic, A.D. & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin*, 124, 240-261.

Stanton, A.L., Kirk, S.B., Cameron, C.L. & Danoff-Burg, S. (2000). Coping through emotional approach: Scale construction and validation. *Journal of Personality and Social Psychology*, 78, 1150-1169.

Stewart-Brown and Janmohamed (2008). Warwick-Edinburgh Mental Well-being Scale (WEMWBS): User guide, Version 1.
www.healthscotland.com/scotlands-health/population/Measuring-positive-mental-health.aspx.

Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J. & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS): A Rasch analysis using data from the Scottish Health Education Population Survey. *Health and Quality of Life Outcomes*, 7, 15

Stratton, P. (2006). Therapist mindfulness as a predictor of client outcomes. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 66 (11-B), 6296.

Strobel, M., Tumasjan, A. & Sporrie, M. (2011). Be yourself, believe in yourself, and be happy: Self-efficacy as a mediator between personality factors and subjective well-being. *Scandinavian Journal of Psychology*, 52, 43-48.

Strupp, H.H. & Hadley, S.W. (1977). A tripartite model of mental health and therapeutic outcomes. *American Psychologist*, 32, 187-196.

Suls, J. & Fletcher, B. (1985). The relevant efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. *Health Psychology*, 4, 249-288.

Summers, F. & Hersh, S. (1983). Psychiatric chronicity and diagnosis. *Schizophrenia Bulletin*, 9, 122-132.

Surawy, C., Roberts, J. & Silver, A. (2005). The effect of mindfulness training on mood and measures of fatigue, activity, and quality of life in patients with chronic fatigue syndrome on a hospital waiting list: A series of exploratory studies. *Behavioural Cognitive Psychotherapy*, 33, 103-109.

Sutherland, V.J. & Cooper, C.L. (1990). *Understanding Stress: A psychological perspective for health professionals*. London: Chapman and Hall.

Swindle, R.W., Cronkite, R.C. & Moos, R.H. (1989). Life stressors, social resources, coping, and the 4 year course of unipolar depression. *Journal of Abnormal Psychology*, 98, 468-477.

Talbert-Kipasa, L. (2009). The relationship between general self-efficacy and vision-targeted health-related quality of life in adults diagnosed with vision impairment. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 69 (9B), 5766.

Taylor, J.A. (1953). A personality scale of manifest anxiety. *Journal of Abnormal and Social Psychology*, 48, 285-290.

Teasdale, J.D., Williams, J.M., Soulsby, J.M., Segal, Z.V., Ridgeway, V.A. & Lau, M.A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68, 615-623.

Tennant, R., Fishwick, R., Platt, S., Joseph, S. & Stewart-Brown, S. (2006). *Monitoring positive mental health in Scotland: Validating the Affectometer 2 Scale and developing the Warwick-Edinburgh Mental Well-being Scale for the UK*. Edinburgh: NHS Health Scotland.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S. *et al.* (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, 5.

Tennen, H. & Affleck, G. (2002). Benefit-finding and benefit-reminding. In C.R. Snyder & S.J. Lopez (Eds.) *Handbook of positive psychology* (pp.584-597). London: Oxford University Press.

Tennen, H., Affleck, G., Armeli, S. & Carney, M.A. (2000). A daily process approach to coping: Linking theory, research, and practice. *American Psychologist*, 55, 626-636.

Tipton, R. M. & Worthington, E.L. (1984). The measurement of generalized self-efficacy: A study of construct validity. *Journal of Personality Assessment*, 48, 545-548.

Tolin, D.F., Abramowitz, J.S., Przeworski, A. & Foa, E.B. (2002). Thought suppression

in obsessive-compulsive disorder. *Behaviour Research and Therapy*, 40, 1255-1274.

Vaisanen, E.H. (1997). Is it just in their heads? An analysis of the pain profiles, coping strategies, adaptiveness and quality of life in surgical temporo-mandibularjoint dysfunction patients. Unpublished Honours B.A. Thesis, York University, Toronto, ON.

Varela, F.J., Thompson, E. & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.

Vitaliano, P.P., DeWolfe, D.J., Maiuro, R.D., Russo, J. & Katon, W. (1990). Appraised changeability of a stressor as a modifier of the relationship between coping and depression: A test of the hypothesis of fit. *Journal of Personality and Social Psychology*, 59, 582-592.

Voss, U. (2001). *Überwachen und Schlafen*. Frankfurt am Main: Peter Lang.

Voss, U., Kolling, T. & Heidenrieck, T. (2006a). Role of monitoring and blunting coping styles in primary insomnia. *Psychosomatic Medicine*, 68, 110-115.

Voss, U., Muller, H. & Schermelleh-Engel, K. (2006b). Towards the assessment of adaptive vs rigid coping styles: Validation of the Frankfurt Monitoring Blunting Scales by means of confirmatory factor analysis. *Personality and Individual Differences*, 41, 295-306.

Walach, H., Buchheld, N., Buittenmuller, N.K. & Schmidt, S. (2006). Measuring mindfulness - the Freiberg Mindfulness Inventory. *Personality and Individual Differences*, 40, 1543-1555.

Watanabe, S., Iwanaga, M. & Ozeki, Y. (2002). Effects of controllability and desire for control on coping and stress responses. *Japanese Journal of Health Psychology*, 15, 32-40.

Watkins, E.R. & Teasdale, J.D. (2004). Adaptive and maladaptive self-focus in depression. *Journal of Affective Disorders*, 82, 1-8.

Watson, D., Clark, L.A. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 6, 1063-1070.

Webb, E. (1915). Character and intelligence. *British Journal of Psychology Monographs*, 1 (3), 1-99.

Werner, A.M. (1997). Self-monitoring, adaptiveness and negative wellbeing among first year university students. Unpublished Honours B.A. thesis, York University, Toronto, ON.

Whiteside, S.P. & Lynam, D.R. (2001). The Five Factor Model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and Individual Differences*, 30, 669-689.

Wieczorek, J.J. (1997). Adaptiveness, recent life experiences, and performance in competitive amateur golf. Unpublished Masters thesis, York University, Toronto, ON.

Williams, S.A., Wissing, M.P., Rothmann, S. & Temane, Q.M. (2010). Self-efficacy, work, and psychological outcomes in a public service context. *Journal of Psychology in Africa*, 20, 53-60.

Williams, S.L. (1995). Self-efficacy, anxiety, and phobic disorders. In J.E. Maddux (Ed.) *Self-efficacy, adaptation, and adjustment: Theory, research and application*. New York: Plenum Press.

Wiznitzer, M., Verhulst, F.C., Van den Brink, W., Koeter, M., Van der Ende, J., Giel, R. & Koot, M.H. (1992). Detecting psychopathology in young adults: The young Adult Self-Report, the General Health Questionnaire, and the Symptom Checklist as screening instruments. *Acta Psychiatrica Scandinavica*, 86 (1), 32-37.

Wolff, H.G. (1953). *Stress and disease*. Springfield, IL: Thomas.

Woodruff, S. & Cashmen, J. (1993). Task, domain and general efficacy: A re-examination of the Self-Efficacy Scale. *Psychological Reports*, 72, 423-432.

Wright, J.C. & Mischel, W. (1988). Conditional hedges and the intuitive psychology of traits. *Journal of Personality and Social Psychology*, 55, 454-469.

Zeidner, M & Saklofske, D. (1996). Adaptive and maladaptive coping. In M. Zeidner & N.S. Endler (Eds.) *Handbook of coping*. New York: John Wiley & Sons.

APPENDICES

- Appendix 1: Ethical approval documents for study 1 and study 2
- Appendix 2: Participant Consent Forms for study 1 and study 2
- Appendix 3: Participant Information Sheets for study 1 and study 2
- Appendix 4: Questionnaire Front Sheets for study 1 and study 2

Appendix 1:

Copies of ethical approval documents for study 1 and study 2.

**UNIVERSITY OF EDINBURGH / NHS (SCOTLAND) CLINICAL
PSYCHOLOGY TRAINING COURSE**

**Research Ethics Meeting
16th July**

Present: Emily Newman, Paul Morris, Sean Harper, Jenny Munro, Gill Kidd, Neil Millar

Margaret McKay

The group thought that the design of this study was rather complicated- it was not clear from the introduction why the variables mindfulness and general self efficacy were included in the design. There were also concerns over whether the scales would measure what the researcher intended them to measure. These concerns may be addressed by more detail and reference to published literature within the introduction. Finally, the group identified issues with the use of questionnaires for therapy- the way that the results were to be used needs to be clearer to potential participants. The group felt that this project should come back to cog.

**UNIVERSITY OF EDINBURGH / NHS (SCOTLAND) CLINICAL
PSYCHOLOGY TRAINING COURSE**

**Research Ethics Meeting
20th August**

Present: Karen McKenzie, David Gillanders, Emily Newman, Mike Hopley, Sean Harper,
Paul Morris, Neil Millar, Gill Kidd, Jill Cossar, Eleanor Sutton, Evelyn Kelly

Margaret McKay

Margaret's project was brought back to COG today for follow-up discussions. The group thought previously that the design of the study was complicated in the way it was presented and was unclear from the introduction why the variables mindfulness and general self efficacy were included in the design. Margaret did address the comments made last time and produced a path diagram for clarification. It was agreed that this is now a viable.

University Hospitals Division
Queen's Medical Research Institute
47 Little France Crescent, Edinburgh, EH16 4TJ

HAC/JB/approval/2f

20 November 2008

Mrs Margaret McKay-Brownless
Department of Clinical Psychologist



Lothian
RESEARCH & DEVELOPMENT
Room E1.12
Tel: 0131 242 3330
Fax: 0131 242 3343
Email: R&DOffice@luht.scot.nhs.uk

Director: Professor Heather A Cubie

Dear Mrs McKay-Brownless

MREC No: N/A
CRF No: N/A
LREC No: 08/S1102/63
R&D ID No: 2008/P/PSY/25
Title of Research Coping Adaptiveness and Psychological Wellbeing: the role of Discriminative Facility, Mindfulness and General Self-Efficacy.
Protocol No/Acronym: Version 1 dated October 2008

The above project has undergone an assessment of risk to NHS Lothian and review of resource and financial implications. I am satisfied that all the necessary arrangements have been set in place and that all Departments contributing to the project have been informed.

I note that this is a single centre study and that Co-Sponsorship between the University of Edinburgh and NHS Lothian has been discussed and appropriate responsibilities agreed.

On behalf of the Chief Executive and Medical Director, I am happy to grant management approval from NHS Lothian to allow the project to commence, subject to the approval of the appropriate Research Ethics Committee(s) having also been obtained. You should note that any substantial amendments must be notified to the relevant Research Ethics Committee and to R&D Management with approval being granted from both before the amendments are made.

This letter of approval is your assurance that NHS Lothian is satisfied with this project. For approved research, NHS Lothian will provide cover for negligence for NHS and Honorary clinical staff for research associated with their clinical duties. It is not empowered to provide non-negligent indemnity cover for patients. Cover for healthy volunteer studies is the personal responsibility of both NHS and honorary employees and is usually arranged with a medical defence organisation or through the University of Edinburgh.

As Chief Investigator or local Principal Investigator, you should be fully committed to your responsibilities within the Research Governance Framework for Health and Community Care, an extract of which is attached to this letter.

Yours sincerely

Professor Heather A Cubie
R&D Director

enc Research Governance Certificate ☒ (to be signed and returned)
Tissue Policy (if applicable) ☐
MTA (if applicable) ☐ (to be signed and returned)
cc Administrators, Research Ethics Committee



NHS Lothian

Research & Development Office, Queens Medical Research Institute

Project ID: 2008/PIPSY/25
Project Title: Coping Adaptiveness and Psychological Wellbeing: the role of Discriminative Facility, Mindfulness and General Self-Efficacy.
REC Ref: 08/S1102/63
Principal Investigator: Mrs Margaret McKay-Brownless

RESEARCH GOVERNANCE FRAMEWORK (RGF) FOR HEALTH & COMMUNITY CARE

The framework is of direct relevance to all those who host, conduct, participate in, fund and manage health and community care research. The framework applies to all managers and staff, in all professional groups, irrespective of seniority.

Research Governance

- Sets standards
- Defines mechanisms to deliver standards
- Requires monitoring and assessment
- Improves research quality and safeguards the public

Responsibilities and Accountabilities of Principal Investigator (PI)

The PI must take responsibility for the conduct of the research and is accountable for this to their employer, and, through them, to the sponsor of the research and to the care organisation(s) within which the research takes place or through which participants, their organs, tissue or data are accessed. The PI must have adequate qualifications and experience to take on these responsibilities. **If the PI also fulfils the role of Chief Investigator (CI), then these responsibilities are extended to all sites.**

In brief, they must ensure that:

- The dignity, rights, safety and well being of participants are given priority at all times by the research team.
- Ethical and management approval is obtained BEFORE the study commences.
- Care professionals involved with patients are informed of the study and its protocols.
- The study complies with all legal and ethical requirements e.g. data protection, informed consent, RGF, and MHRA.
- Each member of the research team is qualified to discharge their role in the study and that students are adequately supervised, supported, and trained.
- When a study involves participants under the care of a doctor, nurse or other worker for the condition in which the study relates, those care professionals are informed that their patients or users are being invited to participate and agree to retain overall responsibility for their care.
- If any information relevant to the care of a patient arises through research, the patient's care professional must be notified. Unless, the patient or the relevant research ethics committee request otherwise.
- Reporting all adverse events, including adverse drug reactions through the appropriate systems.
- Controlled trials are registered.
- Research follows an approved protocol – any proposed changes or amendments to protocol are notified to the appropriate research ethics committee, sponsor and research host.
- Findings are open to critical review through accepted scientific and professional channels and disseminated promptly.
- They perform a key role in detecting and preventing scientific misconduct by adopting the role of guarantor on published outputs.
- Arrangements are in place for financial management of the study and any Intellectual Property arising from it.
- Procedures are in place to ensure the integrity and confidentiality of all data during analysis, processing, storage and archive, and the data is available for audit.
- Progress reports are sent to sponsors promptly and are of an acceptable standard.

For further information and access to the complete Research Governance document visit:
<http://www.show.scot.nhs.uk/cso>

Date: 20/11/2008

Signature: _____

Mrs. Margaret McKay-Brownless
Trainee Clinical Psychologist
Lothian Primary and Community Division
Department of Clinical Psychology
[REDACTED]

Date 16 February 2009
Our Ref
Enquiries to Lyndsay Baird
Extension 89061
Direct Line 0131 536 9061
Email lyndsay.baird@nhsllothian.scot.nhs.uk

Dear Mrs. McKay-Brownless

Full title of study: Coping Adaptiveness and psychological wellbeing: the role of Discriminative Facility, Mindfulness and General Self-Efficacy.
REC reference number: 08/S1102/63

Thank you for your letter of 15 January 2009, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered at the meeting of the Committee held on 2 February 2009.
Confirmation of ethical opinion

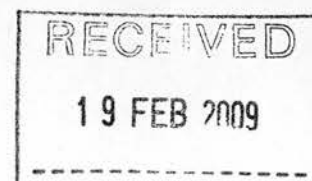
On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission at NHS sites ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.



Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Supervisor's CV	1	
Questionnaire: FMBS	1	01 October 2008
Questionnaire: Day-to-Day Experiences	1	01 October 2008
Questionnaire: Genral Self-Efficacy	1	01 October 2008
Questionnaire: Personal Functioning Inventory	1	01 October 2008
Questionnaire: SCL-90-R	Validated	
Compensation Arrangements		20 August 2008
Letter from Sponsor		30 October 2008
Summary/Synopsis	1	05 November 2008
Covering Letter		05 November 2008
Protocol	1	05 November 2008
Investigator CV	1	05 November 2008
Application	5.6	05 November 2008
Questionnaire Pack Letter	1	01 October 2008
Response to Request for Further Information		15 January 2009
Participant Consent Form	2	09 January 2009
Participant Information Sheet	2	09 January 2009

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "After ethical review –guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nres.npsa.nhs.uk.

08/S1102/63

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Professor Peter Hayes
Chair

Email: lyndsay.baird@nhsllothian.scot.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: *Elspeth Currie*



Lecturer in Clinical Psychology
Section of Clinical & Health Psychology
School of Health in Social Science
Medical School
Teviot Place
Edinburgh
EH10 5HF

dgilland@staffmail.ed.ac.uk

Tel (direct) 0131 651 3946

Secretary (Evelyn) 0131 651 3972

11 January 2011

Margaret McKay-Brownless
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Dear Margaret,

Re: Research Project Proposal: "Coping adaptiveness and psychological wellbeing: the role of general self-efficacy and mindfulness".

Status: PROJECT APPROVED

I am writing to let you know that the above titled project that you have proposed in relation to your DClinPsychol thesis has now been reviewed within the School of Health in Social Science Research Ethics Framework.

We agree that the project is viable and poses no unmanageable risks to participants or to the researchers or this institution. We agree with your assessment on Part 1 of the form that the project is low risk.

You must now submit a copy of the proposal to Lorna Sheal, Senior Secretary, School of Health. This is for records purpose, in addition a proportion of these low risk projects are audited each year to monitor the operation of the School Research Ethics and Governance Framework.

Yours sincerely,

Dr. David Gillanders
Lecturer in Clinical Psychology

Dr. Matthias Schwannauer
Head of Section /
Programme Director

Appendix 2:

Copies of Participant Consent Forms for study 1 and study 2.

Participant Consent Form

Centre No.

Participant Identification No.

Title of Study: Coping Adaptiveness and Psychological Wellbeing**Researcher:** Margaret McKay-Brownless

- Have you read and understood the Participant Information Sheet (Coping Adaptiveness and Psychological Wellbeing V2, 09/01/09)?

Yes ☐ No ☐

- Have you have been given an opportunity to ask questions and discuss this study?

Yes ☐ No ☐

- Have you received enough information about this study?

Yes ☐ No ☐

- Do you understand that your participation is entirely voluntary and that you can leave this study at any time and without explanation?

Yes ☐ No ☐

- Do you agree to take part in this study?

Yes ☐ No ☐

- Should you decide to withdraw from this study, do you give permission for your data still to be used in the study?

Yes ☐ No ☐

- Would you like to receive a summary of the main results of the study?

Yes ☐ No ☐

- Do you give permission for your questionnaire responses to be used as part of your assessment by your therapist, and/or to inform your therapeutic interventions, if this was considered helpful?

Yes ☐ No ☐

Participant Name in block capitals.....

Signature of Participant

Date

Signature of Researcher.....

Date.....



Section of Clinical & Health Psychology
School of Health in Social Science
Medical School
Teviot Place
Edinburgh
EH10 5HF

Participant Consent Form

Centre No. Participant Identification No.

Title of Study: Coping Adaptiveness and Wellbeing **Researcher:** Maggie McKay-Brownless

- Have you read and understood the Participant Information Sheet (Coping Adaptiveness and Wellbeing V1, 08/01/11?)

Yes ☐ No ☐

- Have you been given an opportunity to ask questions and discuss this study?

Yes ☐ No ☐

- Have you received enough information about this study?

Yes ☐ No ☐

- Do you understand that your participation is entirely voluntary and that you can leave this study at any time and without explanation?

Yes ☐ No ☐

- Do you agree to take part in this study?

Yes ☐ No ☐

- Should you decide to withdraw from this study, do you give permission for your data still to be used in this study?

Yes ☐ No ☐

- Would you like to receive a summary of the main results of the study? (If yes, please provide Email address below.)

Yes ☐ No ☐

Participant Name in block capitals.....Signature of Participant.....

Date..... Age..... Gender Male ☐ Female ☐ Email

Coping Adaptiveness and Wellbeing V1 08/01/11

Appendix 3:

Copies of Participant Information Sheets used in study 1 and study 2.



Participant Information Sheet

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully, and talk to others about the study if you wish. Take time to decide whether or not you wish to take part.

Study Title: Coping Adaptiveness and Psychological Wellbeing: the role of Discriminative Facility, Mindfulness, and General Self-Efficacy.

Researcher: Margaret McKay-Brownless (Tel. 0131 536 8100/8101)

Study Supervisors: Dr. David Gillanders (Tel. 0131 651 3946)

Dr. Anna Wroblewska (Tel. 0131 536 8101/8015)

Research Sponsor: The University of Edinburgh

Reviewed by: Lothian Ethics Committee 2

What is this Study About?

Particular situations are experienced as stressful by individuals when they perceive them to be more difficult than they feel they can cope with. Researchers in Psychology have identified different ways that people respond to stressful situations. These responses are termed coping styles. Much previous evidence has pointed to the likelihood that individuals generally tend to use a particular coping style. However, it has also been found that particular styles of coping can be more helpful than others. Their helpfulness can depend on the specific circumstances of a stressful situation. This study is about adaptiveness in coping, which refers to the ability to be flexible in choice of coping style. Being able to be flexible in this way, may allow individuals to choose the most helpful style of coping. This study is interested in how flexibility in coping might be related to wellbeing, and what might influence flexibility.

Why have I been asked to take part?

Most of the research previously done on coping flexibility, has been done on people who are not suffering from psychological difficulties such as stress or mood problems. This study looks at flexibility in people who do have these kinds of problems.

You have been asked to take part for three reasons :

- You are between the ages of 18 and 65.
- You have been referred to either a Clinical Psychologist or another psychological therapist.
- You have not previously received Cognitive Behavioural Therapy (CBT), which is a particular type of psychological therapy.



Your participation in this study is entirely voluntary, and you can leave the study at any time and without explanation. This would not affect the standard of care you receive.

Approximately 74 other patients who meet the above criteria will also be asked to take part in this study.

What will I be asked to do?

You will be asked to complete a Participant Consent Form and a pack of questionnaires, and to return them to the researcher or designated person, in the envelope provided for this purpose. Completing the questionnaires should take 35-40 minutes.

We cannot promise that the study will help you, but the information that we get from the study may help to inform psychological treatments.

In the unlikely event that you experience any distress as a result of your participation in this research, your difficulties will be addressed either by the researcher or her supervisors (please see contact numbers at top of this information sheet.). They will provide support and liaison with appropriate services.

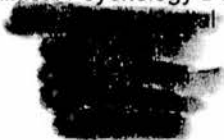
Travel Expenses

Where appropriate, any necessary travel expenses incurred due to participation in this research, will be refunded to the participant.

Confidentiality

Personal details and questionnaire responses will be kept strictly confidential. The only people who will have access to the information will be the researcher and the researcher's supervisors, and only in the event of concern for your wellbeing or that of others, your GP or other appropriate professional. Information will be stored in a locked cabinet in the Clinical Psychology Department, to which only the researcher and her supervisor will have access. On completion of the study, consent forms may be destroyed, but anonymised data will be kept for five years in a locked filing cabinet in the department.

Also, with your permission, questionnaire responses may be used as part of your assessment or to inform your therapeutic intervention, and therefore would be seen by your therapist. The consent form will allow you to decide who has access to this information.



Results of the Study

The main results of the study may be presented to clinical psychology departments from which participants are drawn, or at national conferences. They may also be published in peer reviewed journals. However, neither your identity nor details of your personal circumstances will be revealed.

Independent Information or Advice

If you would like to speak to someone independently or receive advice about your rights as a research participant, or about being involved in this particular research study, please contact: Professor Dave Peck, Clinical and Health Psychology, School of Health in Social Science, University of Edinburgh, Medical School, Teviot Place, Edinburgh EH8 9AG. Tel. 0131 651 3924.

Loss of Capacity

Participants should be aware that in the (perhaps unlikely) event of their loss of capacity to give consent during the research, no new personal data would be collected. However, the researcher would retain personal data already collected, and continue to use it confidentially in connection with the purposes for which consent is being sought.

Complaints

If you have a concern about any aspect of this study, you should speak to the researcher who will do her best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from the hospital.

Thank you for considering taking part in this study. Please contact the researcher if there is anything that is not clear or if you would like more information by telephoning 0131 536 8100/8101.

If you would like to take part, please complete and sign the consent form, then complete the questionnaire pack and return them to the researcher in the SAE provided. Alternatively, these can be returned to the department where you were given them, for collection by the researcher.



Section of Clinical & Health Psychology
School of Health in Social Science
Medical School
Teviot Place
Edinburgh
EH10 5HF

Participant Information Sheet

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully, and talk to others about the study if you wish. Take time to consider whether or not you wish to take part.

Study Title: Coping Adaptiveness and Wellbeing: the role of General Self-Efficacy and Mindfulness.

Researcher: Maggie McKay-Brownless (Tel. 01501 824 571 or 01698 261 331)

Study Supervisors: Dr. David Gillanders (Tel. 0131 651 3946)

Dr. Anna Wroblewska (Tel. 01506 524 175 or 07971 669189)

Research Sponsor: The University of Edinburgh

Reviewed by: School of Health in Social Science, University of Edinburgh

What is this study about?

Particular situations are experienced as stressful by individuals when they perceive them to be more difficult than they feel they can cope with. Researchers in Psychology have identified different ways that people respond to stressful situations. These responses are termed coping styles. Much previous evidence has pointed to the likelihood that individuals generally tend to use a particular coping style. However, it has also been found that particular styles of coping can be better for our wellbeing than others, depending on the nature of a stressful situation. This study is about coping adaptiveness, which refers to the ability to be flexible in choice of coping style. It is interested in what might influence this type of flexibility, and the ways in which flexibility in coping might be related to psychological wellbeing.

Why have I been asked to take part?

This study is part of a series of studies investigating coping styles in people who have mental health difficulties and people who don't. You have been asked to take part for 2 reasons:

1) You are aged 18 or over.

2) You are **not** currently receiving counselling or psychological therapy.

Your participation in this study is entirely voluntary, and you can leave the study at any time and without explanation. Approximately 200 other people will also be asked to take part.

What will I be asked to do?

You will be asked to complete a Participant Consent Form and a pack of questionnaires, and to return them to the researcher, in the envelope provided for this purpose. Completing the

questionnaires should take 20-25 minutes. We cannot promise that completing the questionnaires will be of any benefit to you, but the information that we get from the study may help to inform psychological treatments. In the unlikely event that you experience any distress as a result of your participation in this research, your difficulties will be addressed by either the researcher or her supervisors (please see contact numbers at the top of this information sheet). Alternatively, should you have any concerns regarding your own wellbeing, please contact your GP.

Travel Expenses

Where appropriate, any necessary travel expenses incurred due to participation in this research, will be refunded to the participant.

Confidentiality

Personal details and questionnaire responses will be kept strictly confidential. The only people who will have access to the information will be the researcher and the researcher's supervisors. Information will be stored in a locked cabinet in the Clinical Psychology Department where the researcher is based, to which only the researcher and her supervisors will have access. On completion of the study, consent forms may be destroyed, but anonymised data will be kept for five years in a locked filing cabinet in the department.

Results of the Study

The main results of the study may be presented to clinical psychology departments from where participants in the first part of the study were drawn, or at national conferences. They may also be published in peer reviewed journals. However, neither your identity nor details of your personal circumstances will be revealed.

Independent Information or Advice

If you would like to speak to someone independently or receive advice about your rights as a research participant, or about being involved in this particular research study, please contact: Professor Dave Peck, Clinical and Health Psychology, School of Health in Social Science, University of Edinburgh, Medical School, Teviot Place, Edinburgh EH8 9AG. Tel. 0131 651 3924.

Loss of Capacity

Participants should be aware that in the (perhaps unlikely) event of their loss of capacity to give consent during the research, no new personal data would be collected. However, the researcher would retain personal data already collected, and continue to use it confidentially in connection with the purposes for which consent is being sought.

Complaints

If you have a concern about any aspect of this study, you should speak to the researcher who will do her best to answer your questions. If you remain unhappy and wish to complain formally, you can do this by contacting Dr. Heather Wilkinson, Research Director, School of Health in Social Science, Teviot Place, Edinburgh EH8 9AG.

Thank you for considering taking part in this study. Please contact the researcher if there is anything that is not clear or if you would like more information by telephoning 01501 824 571 or 01698 261 331. If you would like to take part, please complete and sign the Consent Form, remembering to also give details of your name, gender and age. Then complete the questionnaire pack and return it to the researcher in the envelope provided.

Appendix 4:

Copies of Questionnaire Pack Front Sheets for study 1 and study 2.

Questionnaire Pack

Study Title: Coping Adaptiveness and Psychological Wellbeing

(To be returned to Margaret McKay-Brownless, Trainee Clinical Psychologist, Department of Clinical Psychology, [redacted] If posting, please use the enclosed stamped, addressed envelope. Questionnaire Packs may also be returned by hand to the department where you were given it, for collection by the researcher.)

Please follow the instructions at the top of each questionnaire (there should be 5 questionnaires in total), and give only your age, gender and the date on the first questionnaire. **Please write your name only on the consent form, and not on any of the questionnaires.** Try to ensure that you respond to each of the questionnaire items. Try not to dwell too long on individual questionnaire items and to respond as quickly as you can.

Please complete the questionnaires in the order in which they appear. When you have completed one questionnaire, please go directly to the next until you have completed the entire questionnaire pack.

In the unlikely event, after completing the questionnaires, you experience any difficulties or have any concerns about your participation in the study, please do not hesitate to contact the researcher, Margaret McKay-Brownless, Trainee Clinical Psychologist on 0131 536 8100/8101, to discuss them. Alternatively, contact either of the research supervisors, Dr. Anna Wroblewska, Clinical Psychologist, on 0131 536 8015/8101, or Dr. David Gillanders, Clinical Psychologist on 0131 651 3946. **Please retain this front sheet for your information.**

Thank You Very Much for your Participation in this Study.



Section of Clinical & Health Psychology
School of iHealth in Social Science
Medical School
Teviot Place
Edinburgh
EH10 5HF
Secretary (Evelyn Kelly) 0131 651 3972

Questionnaire Pack

Study Title: Coping Adaptiveness and Psychological Wellbeing

Please return this questionnaire pack to Maggie McKay-Brownless, Department of Clinical Psychology, [REDACTED] If posting, please use the stamped addressed envelope provided.

Please follow the instructions at the top of each questionnaire (there should be four questionnaires in total). **Please give details of your name, age and gender only on the Consent Form**, and not on any of the questionnaires. If you would like to receive a summary of the main study results, please also give details on the Consent Form of an Email address to which this may be sent. Try to ensure that you respond to each of the questionnaire items. Try not to dwell too long on individual questionnaire items and to respond as quickly as you can. Please complete the questionnaires in the order in which they appear. When you have completed one questionnaire, please go directly to the next until you have completed the entire questionnaire pack.

In the unlikely event, after completing the questionnaires, you experience any difficulties or have any concerns about your participation in the study, please do not hesitate to contact the researcher, Maggie McKay-Brownless on 01501 824571/2 or 01698 261 331. Alternatively, contact either of the research supervisors, Dr. Anna Wroblewska, Consultant Clinical Psychologist on 01506 524 175 or 07971669189, or Dr. David Gillanders, Clinical Psychologist on 0131 651 3946.

Please retain this front sheet for your information.

Thank You Very Much for your Participation in this Study